

3 0455 0003 2996 1



BLM - ALASKA RESOURCES LIBRARY
GB1227.K87N38
Navigable and nonnavigable waters in the

**Navigable and Nonnavigable Waters in the
Upper Kuskokwim River Basin**

**United States Department of the Interior
Bureau of Land Management**

GB
1227
.K87
N38
1980



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Alaska State Office
701 C Street, Box 13
Anchorage, Alaska 99513

IN REPLY REFER TO

2620 (932)

MAY 6 1980

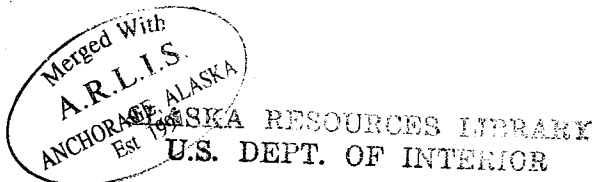
GD
1227
.K87
N38
1980

Memorandum

To: State Director (910)

From: Chief, Division of Resources (930)

Subject: Navigable and Nonnavigable Waters in the Upper Kuskokwim River Basin



Attached is a staff report on the physical character and historic uses of waterbodies in the upper Kuskokwim River basin. On the basis of this report, we recommend that the following waterways be determined navigable:

1. The Kuskokwim River;
2. Takotna River to the mouth of Fourth of July Creek;
3. Nixon Fork to the mouth of West Fork;
4. Big River to the mouth of Middle Fork;
5. Middle Fork to the mouth of Pitka Fork;
6. Pitka Fork to the mouth of Salmon River;
7. South Fork of the Kuskokwim River to the bluffs in T. 31 N., R. 24 E., S.M.;
8. Little Tonzona River to the mouth of No Creek;
9. North Fork of the Kuskokwim River to Minchumina Portage;
10. Swift Fork to the mouth of Highpower Creek; and finally,
11. East Fork of the Kuskokwim River to the mouth of Slow Fork.

The streams appear to meet the standards of navigability as set forth in Departmental guidelines and clarified by the Alaska Native Claims Appeal Board in its decision of December 14, 1979, on the navigability of the Nation and Kandik Rivers.

We have considered all lakes and other streams in the basin, and recommend that they be determined nonnavigable. None appear to be susceptible to navigation.

Your concurrence with the recommendations is respectfully requested.

I concur:

5/6/80

ACTING State Director

Date

Enclosure

ARLIS

Alaska Resources
Library & Information Services
Anchorage, Alaska



United States Department of the Interior

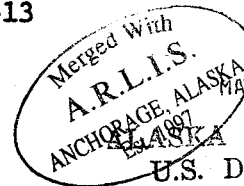
IN REPLY REFER TO

2620 (932)

BUREAU OF LAND MANAGEMENT

Alaska State Office
701 C Street, Box 13
Anchorage, Alaska 99513

MAY 6 1980



RESOURCES LIBRARY
U.S. DEPT. OF INTERIOR

Memorandum

To: Chief, Division of Resources (930)
Through: Chief, Branch of Lands and Minerals (932)

From: Historian

Subject: Navigable and Nonnavigable Waters in the Upper Kuskokwim River Basin

We are pleased to submit the attached report describing the physical character and historic uses of water bodies in the upper Kuskokwim River basin. Many of these water bodies are located in areas selected by Doyon, Ltd. and various village corporations under the provisions of the Alaska Native Claims Settlement Act. In its Water Delineation Maps, the State of Alaska has identified many of the water bodies as navigable. If the water bodies are or were navigable, title to the submerged lands passed to the State of Alaska on January 3, 1959, the date of Alaska Statehood.

We are reasonably satisfied that the information in this report is sufficient to make reliable determinations of navigability and nonnavigability on the basis of the U.S. Department of the Interior's guidelines and the Alaska Native Claims Appeal Board's decision of December 14, 1979, on the navigability of the Nation and Kandik Rivers. We therefore make the following recommendations.

1. We recommend that the entire length of the Kuskokwim River be determined navigable. Since the early 1900's, the Kuskokwim River has been the principal supply line for the Innoko and McKinley mining districts. The river continues to be the principal route of travel and trade from tidewater to numerous villages and towns, including McGrath and Medfra.

2. We recommend that the Takotna River to the mouth of Fourth of July Creek, and Nixon Fork to the mouth of West Fork be determined navigable. Until the construction of the Sterling Landing-Takotna Road in the late 1920's, all freight to the Innoko mining district went over the Takotna River to Takotna in steamboats and launches, and sometimes to Big Creek in launches and pole boats. The physical character of the river is such that launches and pole boats may be used to the site of the former Indian village at the mouth of Fourth of July Creek.

As concerns Nixon Fork, the principal tributary of Takotna River, the historical record indicates that prospectors and trappers customarily traveled on the river in pole boats and possibly launches to reach their headquarters on West Fork. This use has been documented for a 30-year period.

No other tributaries of the Takotna River and Nixon Fork are considered to be navigable. The records indicate that the Moore Creek mines were dependent upon the Iditarod-Moore Creek trail for travel and the transportation of freight. Only small boats, such as canoes and aluminum riverboats, may be used on the Takotna River above the mouth of Fourth of July Creek. The Candle Creek mines on Tatalina River were from the beginning served by roads and trails from the Kuskokwim River. The Nixon Fork mines were also served by the road from the Kuskokwim River.

3. We recommend that the Big River to the mouth of Middle Fork, Middle Fork to the mouth of Pitka Fork, and Pitka Fork to the mouth of Salmon River, be determined navigable. This water system has long been the customary route of summer travel to villages and roadhouses-trading posts on the Rainy Pass Trail, as well as to prospecting and trapping headquarters on Windy Fork and Sheep Creek. Launches and barges have been used on the water route.

Hunters and fishermen have used the upper stretches of Big River, Middle Fork, Pitka Fork, Salmon River and their tributaries in small boats. The record suggests that the upper stretches of these rivers are suitable for travel in small boats only.

4. We recommend that the South Fork of the Kuskokwim River as far as the bluffs in T. 31 N., R. 24 E., S.M. be determined navigable. Steamboat and barge traffic to Nikolai Village has been documented. Local residents have stated that use of large boats to the mouth of Little Tonzona River, the former location of Nikolai Village, as well as to the bluffs for hunting purposes, is possible.

In addition, we recommend that Little Tonzona River as far as the mouth of No Creek be determined navigable. A fish camp has been located near the mouth of No Creek for many years. The South Fork and Little Tonzona River are the customary routes of travel to the summer camp.

The South Fork above the bluffs and other tributaries of the South Fork are considered to be nonnavigable. While several local residents have stated that boats may be used to the headwaters of the South Fork, the historical record indicates that the customary route of travel to the head of the South Fork was the Salmon River-Rainy Pass Trail, and the summer trail which began at the Little Tozona River.

5. We recommend that the North Fork of the Kuskokwim River as far as the Minchumina Portage be determined navigable. The historic record indicates that the North Fork was an important route of travel between the Kuskokwim and Tanana River basins. Pole boats and launches have been used on the river to the portage.

6. We recommend that the Swift Fork as far as the mouth of Highpower Creek be determined navigable. Use of wooden riverboats to Telida Village has been documented. The physical character is such that wooden riverboats may be used to Highpower Creek. Beyond that point, the river is too shallow for boat traffic.

Red Slough is not considered to be a "slough" of the Swift Fork as the term is generally understood. The slough meanders a considerable north of Swift Fork, and appears to be very narrow in the southeast section. Local residents report use of the slough in small boats. We therefore recommend that the slough be determined nonnavigable.

7. We recommend that the East Fork of the Kuskokwim River as far as the mouth of the Slow Fork be determined navigable. The East Fork was the principal route of summer travel to the East Fork and Slow Fork villages and roadhouses.

8. No lakes in the upper Kuskokwim River basin are considered to be navigable. All of the lakes are small and for all practical purposes landlocked. The lakes are accessible by land and airplane. Local residents traditionally hunt and fish on the lakes in small canoes. The lakes are too small to be considered potential highways of commerce.

C. M. Brown

I. THE UPPER KUSKOKWIM RIVER BASIN

Bordered by high, rugged mountains of the Alaska Range in the south and east, and the lower Kuskokwim Mountains in the north and west, the upper Kuskokwim River basin is drained principally by the North, South, and East Forks of the Kuskokwim River, and the Takotna and Big Rivers. The North, South, and East Forks converge near the small community of Medfra to form the main Kuskokwim River. Farther downstream, at rivermile 512, the Big River joins the Kuskokwim River on its left limit. Near the town of McGrath, the Takotna River empties into the Kuskokwim River from the north. From that point, the Kuskokwim River continues its long, sluggish journey to the Bering Sea, 470 miles to the southwest, receiving along its course the waters of numerous rivers and creeks.

Land form in the Alaska Range is extremely rugged, with precipitous mountains and extensive glaciers blocking all but a few passes to the Susitna and Tanana River valleys. The Kuskokwim Mountains, in which the Takotna River finds its source, flank the North Fork of the Kuskokwim River as well as the main Kuskokwim River for much of its length; they are lower and not as steep as mountains in the Alaska Range. Many passes to the Innoko and Tanana Rivers are available in the Kuskokwim Mountains in this area.

Within the basin itself, at lower elevations, land form is characterized by gently sloping piedmont areas and finally the flat lowlands, an extensive poorly drained area of bogs, muskeg, countless lakes and meandering rivers. The Birch Hills, Slow Fork Hills, and East Fork Hills interrupt the otherwise low relief in the flatlands.

Large areas of the Alaska Range, especially in the high altitudes and on the steeper slopes, are barren of vegetation. Above the 3,000-foot elevation, alpine tundra or low, matlike plants and scattered clumps of shrubs and bushes, are common. At lower altitudes, brush or wet tundra is prevalent. Brush tundra consists of sedges, dwarf heaths, and dwarf birches with a dense carpet of mosses and local areas of lichens.

The uplands support alpine tundra and boreal forest. White spruce, white birch, and aspen prevail on the steeper, drier slopes and at higher elevations. Black spruce, common in poorly drained areas is found on the more gentle slopes and in creek valley bottoms. The timber line is usually several hundred feet lower on northward-facing slopes than on southward-facing slopes, which are exposed to the sun's rays for a greater period of time. The line may be as much as 1,000 feet lower on the northern-facing slopes of the larger mountains.

Black spruce, muskeg, and bog vegetation prevail in the lowlands. White spruce, white birch, and poplar is found on young alluvial deposits; black spruce-muskeg vegetation on the older deposits; and a combination of black spruce-muskeg and bog vegetation on the oldest deposits. Muskeg is a wet spongy area with a thick carpet of peat mosses and sedge tussocks. Quaking or floating bogs are interspersed throughout large areas of the black spruce-muskeg vegetation; they are "watery area[s] with a high content of floating vegetation, predominantly peat mosses, sedges, and shrubs, that is usually concentrated into a mat at the surface." 1/

Quaking bogs are numerous in the lowlands. The bogs are irregularly shaped, often interconnected, and surround irregularly shaped areas of firmer ground. The bogs are formed as a result of several terrain and climatic factors. Poor surface drainage due to low gradients; the high level of precipitation in the summer; the generally fine-grained nature of the subsurface material; the limited degree of evaporation and transpiration from the ground and vegetation; the prevalence of permafrost and hydrophytic vegetation; all contribute to poor surface and subsurface drainage and thus to the development of bogs. 2/

Cold and dry winters and warm and wet summers are characteristic in the lowlands. Maximum temperatures in the summer average in the low seventies. Maximum precipitation is in July, August and September. The frost-free period extends for about four months.

Both glacial and non-glacial rivers exist in the basin. Rivers originating in the Alaska Range are glacial; those heading in the Kuskokwim Mountains are non-glacial. Glacial rivers, such as Big River, Tonzona River, and the South Fork of the Kuskokwim River, are swift, braided in the upper reaches, heavily laden with silt, and are highly responsive to daily climatic conditions. In the winter, the rivers are clear, being fed mainly by springs, and the volume of discharge is very low. In the summer, with the melting of glaciers and snowfields, the streams are turbid from gravel, sand, and silt, and the volume of discharge is high. Upon reaching the lowlands, these rivers gradually lose their braided character, becoming meandering streams with well-defined channels. In the lower reaches, the river channels often double back on themselves through an area of oxbow lakes.

The North Fork and East Fork of the Kuskokwim River, and Takotna River, are non-glacial rivers. These streams have sluggish currents, and a meandering course. Water depths are subject to the amount of snowfall in the winter, and rainfall in the summer. During a period of heavy rainfall, the water level rises rapidly, and sometimes the river leaves its banks to flood the surrounding country. Like the glacial rivers, these streams exhibit an exaggerated sinuous character in the lowlands. In the case of the North Fork, Swift Fork, and Slow Fork, as well as Takotna River, this character is evident throughout most of their lengths.

Both the glacial and non-glacial streams are frozen through much of the year, from November to May. With the spring breakup of the river ice, the rivers often flood the lowlands, and ice cakes cut the banks as they are swept downstream.

The rivers in the basin have much in common; but it is important to remember that each river, due to its location, is unique in itself. For this reason, it is well to describe each river separately.

BIG RIVER

Originating in glaciers in the Revelation Mountains in the Alaska Range, Big River flows in a northwest direction to empty into the Kuskokwim River at river mile 512. The river is about 126 miles long. The average slope of the river is about eight feet per mile.

The Big River is one of the few streams in the upper Kuskokwim basin which has been investigated by the U.S. Geological Survey. In 1949 or 1950, A.T. Fernald of the Geological Survey descended the river in a canoe, having gained access to the river by landing an airplane on a nearby lake. He described the river as being a braided stream from its glacial source to a point about halfway down its alluvial fan. In the braided stretch, the floodplain ranges in width from 0.5 mile to three miles. The river constantly alternates between a concentrated flow in a few channels and a dispersed flow in numerous channels. The change in the flow character is the result of repeated branching or "peeling" of the main channel at points where the bordering low natural levees have been breached. At these points shallow gravel bars underlie the breaches, and log jams are frequent. The main flow of the river swings irregularly from one side of the river to the other.

In the lower half of the alluvial fan, the river changes from a braided to a meandering stream within a stretch of nine miles. The river course becomes more pronounced and regular; zones of concentrated flow develop; and the number of channels in areas of dispersed flow decreases. As the river approaches the Kuskokwim River, the meanders make large complex loops, frequently doubling back on themselves for over a mile. Numerous oxbow lakes, former channels of the river, exist along the lower reaches of the river. 3/

Middle Fork

Emptying into Big River at its rivermile 7, the Middle Fork originates in a glacier in the Alaska Range, and flows in a northwest direction for a distance of about 119 miles. The slope of the river averages 7.7 feet per mile. The river exhibits a braided character in its upper reaches, and becomes a meandering stream just north of Lone Mountain. From this point the stream flow is concentrated in a single channel, which twists through extensive silt-covered flats. For many miles the banks in the lower reaches are hardly above the floodwater level, as one observer noted driftwood on top of banks of ordinary height. Descending the lower reach in 1914, a civil engineer described the river as deep, sluggish, and about 330 feet wide.

Windy Fork

Draining an area of 345 square miles, the Windy Fork is a glacial stream which flows northwest for a distance of 61 miles to empty into the Middle Fork at its rivermile 38. The slope of the river is estimated to be 11 feet per mile.

Pitka Fork

A non-glacial stream, Pitka Fork drains an area of about 700 square miles. Heading in a piedmont area, the river meanders in a northwest direction for a distance of 65 miles to empty into the Middle Fork at its rivermile 17. The river below the mouth of Salmon River has been described as deep and sluggish with an average velocity of two second-feet. The river is about 230 feet wide in this reach. 5/

Salmon River

Heading in a piedmont area, this river empties into the Pitka Fork at its rivermile 21. The stream flows in a northwest direction in a well-defined channel.

SOUTH FORK OF THE KUSKOKWIM RIVER

Draining an area of 3,070 square miles, the South Fork heads in a glacier on the northeast slope of Snowcap Mountain in the Alaska Range. The river flows in a northwest direction for 150 miles to empty into the Kuskokwim River at its rivermile 540. The stream is swift and shallow in its upper reaches, the slope above rivermile 58 being about 29.7 feet per mile. Below that point, the river gradually becomes a meandering stream with a slope of 2.6 feet per mile. Above the mouth of Little Tonzona River, the South Fork is a maze of silty channels, and the flow is dispersed and irregular. A well-defined channel of flow begins to develop near the Little Tonzona River.

Little Tonzona River

A glacial river, the Little Tonzona River is about 70 miles long. The river flows westward in a piedmont area in a narrow and shallow channel until near the confluence of Big Salmon Fork, No Creek, and Deepbank Creek, it becomes deep with a sluggish current. The river empties into the South Fork at its rivermile 40.

NORTH FORK OF THE KUSKOKWIM RIVER

Flowing into the Kuskokwim River at its rivermile 540, the North Fork drains an area of 2,071 square miles. About 260 miles in length, the river heads in the Kuskokwim Mountains. Following the base of the mountains, at one point coming within 10 to 12 miles of Lake Minchumina, the river meanders through a lake-dotted country in a southerly direction. The channel of flow is well-defined. The banks consist of gravel bars and cut banks, some several feet high. The slope of the river is about 1.2 feet per mile.

Swift Fork

The Swift Fork enters the North Fork at its rivermile 108. Draining an area of 1,400 square miles, the river heads in Chedotlothna Glacier in the Alaska Range, and flows about 75 miles in a northwest direction. The slope of the river is about 8.4 feet per mile. The river exhibits a braided character in its upper reaches, becoming a meandering stream as it enters the lowlands near the Telida Lakes. The river is reportedly very shallow and narrow above the mouth of Highpower Creek.

East Fork

About 145 miles long, the East Fork drains an area of 940 square miles. Formed by two glacial rivers, Tonzona River and Slow Fork, the East Fork flows southwest, then west in a well defined channel. The river slope averages 1.7 feet per mile. The stream has a sluggish current, and banks of gravel bars, some of which are 20 feet high. The river becomes shallow and narrow in Section 33, T. 27 S., R. 26 E., K.R.M. 6/

Tonzona River

Tributary to the East Fork at rivermile 72, the Tonzona River drains an area of 870 square miles. The river heads in several glaciers in the Alaska Range. For much of its 67-mile length, the river exhibits a braided character. Upon

reaching the lowlands near Lake Hoyle, stream flow is dispersed into numerous single channels. The stream banks support growths of timber, and sweepers are frequent. Sand bars also occur. From the mouth to rivermile 20, the stream gradient is about 19 feet per mile. 7/

Slow Fork

The Slow Fork joins the East Fork at its rivermile 75. Originating in a piedmont area, the river flows sluggishly through an extensive lake-dotted country. Cut banks are as high as 20 feet. The river is reportedly shallow and narrow above Section 26, T. 25 S., R. 30 E., K.R.M. 8/

TAKOTNA RIVER

Formed by Moore Creek and Little Waldren Fork, the Takotna River flows in a northeasterly direction before swinging southeasterly near the small community of Takotna to empty into the Kuskokwim River at its rivermile 455. The river is about 100 miles in length, and drains an area of 2,180 square miles. From its head to Takotna, the river is shallow and winding. Beyond Takotna, the river gradually becomes deeper, especially after it is joined by Nixon Fork. According to one report, the water depth at the mouth of Nixon Fork was 13 feet in 1910. The river has a sluggish current and averages 400 to 500 feet in width. The river slope is about 4.7 feet per mile.

Nixon Fork

Heading in the Mystery Mountains and Von Frank Mountain, the Nixon Fork flows about 75 miles in a southwesterly direction to join the Takotna River at its rivermile 15. The river exhibits a meandering character throughout its course. Extensive bog flats are located along the middle and lower stretches of the river.

Tatalina River

From the Candle Hills, the Tatalina River meanders 55 miles northeast down a shallow valley and into a swampy lowland to empty into the Takotna River at its rivermile 3. The shallow river has a winding and narrow channel. The stream banks are low and brush-covered. 9/

LAKES

Countless numbers of small lakes occupy the upper Kuskokwim basin. Lakes in the lowlands are formed as the result of the same factors behind the formation of bog flats. Unlike the bog flats, however, the lake-dotted surfaces have no stream outlets, and thus are completely undrained. This is due to their flatness, their location away from bordering uplands, and their slight altitude above the plains. Most of the lakes can be classified as circular, triangular, or rectangular. The rectangular lakes are generally restricted to the alluvial plains, and have their longest axis oriented west-northwest. Some have steep cut banks, while others have gently sloping banks. Floating mats of vegetation commonly extend out from the shores for varying distances.

10/

II. EXPLORATIONS

Operating primarily from their station at Kolmakov on the middle Kuskokwim River, traders of the Russian-American Company dominated the Kuskokwim River fur trade for more than 30 years. The Russians established a small post near Kolmakov in 1833, and following the success of such aggressive traders as Lukin and Kolmakov in extending the Russian trade along the Kuskokwim River, upgraded the post to a major station in 1841. The upper Kuskokwim basin, known to the Russians as Ttychannanika was a prized field in the fur trade. The traders apparently did not explore or establish posts on the rivers (with the exception of Takotna River) in the basin, content to limit their trade with the upper Kuskokwim Indians at Kolmakov and later at Vinasale, an Indian summer camp located on the left limit of the Kuskokwim River below the mouth of the Takotna River. By 1844, however, the Russians knew much about the basin - the nature of the terrain, the number and names of the larger rivers, and the principal routes of travel in the basin to the Iditarod, Innoko, Tanana, Yukon, and Susitna Rivers. Much of their information doubtless came from the Indians who traded at Kolmakov and Vinasale. How much more was known to the Russian traders is difficult to determine, inasmuch as the available records concern only the early years of the Russian occupation of the Kuskokwim River basin. The Russian experience on the upper Kuskokwim River from the late 1840's to 1867, when Alaska was sold to the United States, is virtually unknown.

The first Russian to explore the upper Kuskokwim basin was probably Petr Kolmakov. The son of Fedor, who was instrumental in founding the Kolmakov post, Petr was one of several traders on the Kuskokwim River who expanded the sphere of the Russian fur trade beyond all expectations. In 1839, Kolmakov and a small party in five kayaks ascended the Kuskokwim River to the Takotna River, and up that stream to the Nixon Fork. Spending two days on the Tochotno (Takotna River) and another two days on the Nochotno (Nixon Fork), Kolmakov's party then crossed an easy portage, estimated to be 36 versts (23.9 miles) in distance, to the Tlegon (Innoko River). According to Zagoskin, who had Kolmakov's map on his journey to the upper Kuskokwim River in 1844, Kolmakov required three days to cross the portage. Zagoskin believed that Kolmakov must have meant that the portage was only 12 versts (8 miles) long, and thus had to cross the portage three times in order to carry the five kayaks, supplies, and trade goods to the Innoko River. Zagoskin himself may have been in error, however. The Takotna-Ophir portage, a well-known Indian trade route used by many gold stampeder in the early 1900's, was little more than 20 miles in distance; it was probably the route taken by Kolmakov.

In any case, the Kolmakov party successfully reached the Innoko River, and descended that river a considerable distance before learning from Indians on the river that the company's post at Russian Mission on the Yukon River was abandoned. Deciding to return to the Kuskokwim River, Kolmakov ascended the Innoko River and taking advantage of the opportunity to make contact with Indians on what was probably the Iditarod River, ascended that river. They then crossed a difficult

portage, estimated to be 65 versts (43 miles) in distance, to the head of Takotna River, which they descended to the Kuskokwim River. According to Zagoskin, Kolmakov's portage was an established route of travel for Indians on the Iditarod River to the upper Kuskokwim River. 1/ The evidence is strong that the portage was a segment of the Moore Creek trail used by stampeder on the upper Kuskokwim River to reach the Iditarod River in the 1910's.

Having established contact with the Indians on the upper Kuskokwim and Innoko Rivers, Russian traders subsequently relied upon the Indians to travel to Kolmakov to trade. While the traders knew that Indians in the upper Kuskokwim basin also traveled to Kolmakov, they were uncertain about the extent of their influence in the basin. This is evident in the company's adoption of a disastrous policy in 1842. Desiring to extend the trade in the basin, the Company permitted the Tanaina Indians in Cook Inlet to cross the mountains and trade with the upper Kuskokwim Indians at a place called Itstsynno, believed to be located near present-day Medfra. Much to their surprise, the Russian traders at Kolmakov witnessed a sudden decline in the number of furs for barter. Before 1842, the traders obtained more than 2,000 beaver pelts each year. In 1842, the number of pelts declined to 1,200. Appeals were made for the restoration of the former trading system, partly to restore Kolmakov's position in the Kuskokwim fur trade and partly to check a possible conflict between the Indians, as it was known that the Tanaina Indians dealt harshly with the upper Kuskokwim Indians. 2/

Reading the somewhat vague reports of the Russian traders, and confident that the trading system could be effectively improved, the Company resolved in 1842 to send Lieutenant Lavrentii Aleksevich Zagoskin to Russian America, where he was to collect information on how to improve the supply routes to points already explored or occupied, and where to establish new posts in the interior. Important here as well is Zagoskin's directive to explore the Kuskokwim River to its source, and to locate the most practicable portages between the Yukon and Kuskokwim Rivers.

In May 1844, Zagoskin accompanied the manager of the Kolmakov station on his annual journey to Vinasale. While the manager traded with the Indians, Zagoskin left Vinasale with an interpreter and a guide, who had been with Kolmakov's expedition in 1839, and ascended the Kuskokwim River to the Takotna River, and up that river for an estimated distance of five miles. In the course of the journey, Zagoskin made copious notes of his observations, as well as his discussions with Kolmakov's former guide, who proved to be a valuable source of information about the portage to the Iditarod River. Upon reaching the Takotna River, Zagoskin sent one guide upriver to contact the Indians living on the river. A day later the guide returned with three men and two women with children. Several of the men had just returned from a trading journey to Kolmakov. Zagoskin learned much about the geography of the upper Kuskokwim basin from the Indians on Takotna River, including the names of six rivers in the basin and the existence of an inland lake or sea (possibly Lake Minchumina) which may be reached from the Yukon and Nowitna Rivers. Indians on the Yukon, Innoko, and Takotna Rivers were quite familiar with the lake. Zagoskin doubtless learned much about the

basin, but unfortunately recorded only that information which could be verified by alternative sources. Zagoskin wanted to ascend the Kuskokwim River to its source, but decided against it as his guides were needed at Kolmakov. 3/

In his report, Zagoskin recommended the restoration of the pre-1842 trading system with the upper Kuskokwim Indians. It is not clear whether his advice was heeded, but the available evidence suggests that the Russian presence on the upper Kuskokwim River was of a more permanent nature. In the early 1850's, the traders constructed a small post at Vinasale which they apparently occupied only in the summer. There is evidence that another post was constructed on the Takotna River, near present-day Takotna. In the late 1900's, prospectors reported finding the remains of a "Russian blockhouse" near the Indian portage to the Innoko River. 4/ Given the traders' high regard for the Takotna and Innoko Rivers as beaver streams, and their policy of constructing posts at strategic points on important Indian trade routes, it is entirely possible that the Russians did have a post on the Takotna River. Little is known about the post at Vinasale, much less the Takotna River post, although the existing records suggest that the former post was finally abandoned about 1866, in anticipation of the sale of Russian America to the United States.

When the Russians abandoned the Kuskokwim River, the upper Kuskokwim basin was still an unexplored area. In 1869, just two years after the American purchase of Alaska, the U.S. Coast Survey published a map of Alaska. Based upon Russian and British charts as well as the survey of William H. Dall on the Yukon River, the map accurately indicates the general course of the Kuskokwim River to the mouth of the Takotna River, while a sinuous line bearing northwesterly represents the meandering course of the Takotna River. Two long streams are shown to flow into the Kuskokwim River above the mouth of the Takotna River. These lines may represent the North and South Forks, but in the absence of delineated landmarks, it is difficult to say what streams were meant to be represented. 5/

Not many years after the purchase of Alaska in 1867, the Alaska Commercial Company reestablished trading posts on the Kuskokwim River at Kolmakov and Vinasale. What little evidence there is about the movements of the company traders, suggests that they, like the Russian traders, did not venture far above Vinasale. When Josiah Edward Spurr visited Kolmakov in the summer of 1898, he was told by Ivan Andreanoff, the trader, that he with his sons had been far up the Kuskokwim River and that the river headed in a vast swamp. For some reason Spurr doubted Andreanoff's story, writing that no white man had ever penetrated far above Vinasale and that Andreanoff probably obtained his information from the Indians. 6/

*a Russian
had headed
at Kolmakov
before 1867*

While Spurr may have been correct that few white men had penetrated the upper Kuskokwim basin, it is a fact that the general course of the upper Kuskokwim rivers were known and charted on official maps before the government explorations of 1898-99. In 1897, for example, the Bureau of Education published a "General Chart of Alaska," which illustrates not only the course of the Kuskokwim and Takotna Rivers, but also the

general course of the North, South, and East Forks. The South Fork is identified as the Kuskokwim River, heading in a glacier not far from a tributary of the Susitna River. The East Fork, although unnamed, is correctly shown to be a tributary of the North Fork, while the North Fork, also unnamed, is shown to head far to the north, at one point closely approaching the Novikaket River, an important tributary of the Yukon River now known as the Nowitna River. 7/

Whether the information that went into the preparation of this map came from the Indians or obscure white trappers and prospectors cannot be determined from the available records. White trappers and prospectors began to penetrate the upper Kuskokwim basin as early as 1889, if not earlier. In 1898, Spurr learned from James Cleghorn, an agent of the Alaska Commercial Company at Susitna Station, a post on the lower Susitna River, that a number of prospectors had made journeys through the Kuskokwim River basin. About 1889, Frank Densmore and a party of prospectors travelled from the Tanana River to the Kuskokwim River and descended that river to the Yukon-Kuskokwim portage. About the same time, a prospector named Al King made a journey over the same route. Later, a prospector named Joe Goldsmith crossed the Yukon-Kuskokwim portage from the Yukon River and ascended the Kuskokwim River several hundred miles. Two prospectors, James Cleghorn and Henry Mellish, also crossed the portage and wintered at Kolmakov. 8/ There may have been other prospectors and trappers who penetrated the middle and upper Kuskokwim River areas. In 1911, Andy Peterson, a prospector who crossed the basin from the Tanana River in 1906, reported finding newspapers dating from the early 1880's in a deserted cabin on one of the forks of the Kuskokwim River. 9/

While it is quite possible that the upper Kuskokwim basin had been explored by prospectors and trappers since the 1880's, it was not until the Klondike Gold Rush of 1897-98 gave rise to demands for geographical and geological information as well as maps, that the United States Geological Survey and War Department launched a series of explorations in Alaska. The explorations of Josiah Edward Spurr in 1898, First Lieutenant Joseph S. Herron in 1899, and Alfred Hulse Brooks in 1902, contributed much to knowledge of the geography of the Kuskokwim River region.

*Spurr's expedition
to the Yukon
1898*

In 1898, J. E. Spurr, W. S. Post, Oscar Rohn, George Hartman, A. E. Harrell, and F. C. Hinckley ascended the Susitna and Yentna Rivers by boat, and then searched for a pass to the upper Kuskokwim River. They eventually reached the Ptarmigan Valley, and then passed through the Hellgate to the mouth of Hartman River. The party descended the South Fork in three Peterborough canoes, ranging in length from 18 feet to 19 feet, to the Kuskokwim River, and then down that river. This expedition resulted in the first accurate map of the Kuskokwim River and the South Fork, which Spurr took to be the true source of the Kuskokwim River, as well as the principal headwater tributaries of the South Fork. Spurr proved the practicality of the Susitna-Kuskokwim route for travel; and in addition suggested that a road from the Susitna-Kuskokwim portage to the Tanana River following the base of the Alaska Range may be feasible. 10/

One of the primary missions of the War Department during the years of the Klondike Gold Rush was the investigation of possible land routes from tidewater to the navigable waters of the Tanana and Yukon Rivers. The Army concentrated its attention to routes in the Copper River and Susitna River valleys, but it did send one small expedition to the upper Kuskokwim area. Under the command of First Lieutenant Joseph S. Herron, Eighth Cavalry, the expedition was to determine the existence of land routes of travel from the Susitna-Kuskokwim portages to the confluence of the Yukon and Tanana Rivers, where the Army was constructing the Fort Gibbon post.

Early in the summer of 1899, Lieutenant Herron, Assistant Surgeon Henry R. Carter, Privates Dan L. Jones and Gilbert Dillinger, packers E. M. Webster and George Brown, and two Indian guides named Stepan and Slinkta were taken up the Susitna and Yentna Rivers in the steamboat Duchesnoy. Landed on the Kichatna River about three miles above its mouth in late June, the party struggled to reach the passes to the Kuskokwim River with pack horses for the next several weeks. On July 22, they discovered Simpson Pass, which Herron considered to be suitable for the location of trails, roads, and railroads.

Crossing the divide on July 22, the expedition made its way down the valley to make camp on Tatina River on the following day. For the next two weeks, the party followed the ridges on the right limit of the Echeatnu (South Fork). Their Indian guides having since abandoned them, Herron's men left the valley of the South Fork on August 8, about 10 miles south of the Tonzona River (Little Tonzona River), and headed northeast to the East Fork Hills. On August 18, after passing west of Lake Hoyle, which Herron named, the party made camp at a deserted Indian village on the left limit of the Chedotlothna (East Fork), about 10 miles below the mouth of the Tonzona River.

By this time, the Herron party were becoming desperate as their supplies dwindled and the signs of an early winter were upon them. Heading for higher ground and following the right limit of the Slow Fork, the party's situation grew worse when frost killed the grass, forcing the men to feed the horses from their own meager supplies. Their only hope was to find an Indian village where food and guides could be obtained. On September 4, they cached some provisions, and set out to explore a large river, the Tatlathno (Swift Fork). Finding fresh signs of Indians on the river, and the horses no longer of use, Herron established camp on September 8, and built rafts with which to descend the river. The horses were abandoned. Descending the river, Herron found the river "crooked, swift, full of snags and sweepers, and dangerous for rafting." At one point, one of the rafts was upset, and additional rations were lost. After travelling a distance of eight miles, they encountered a series of log jams which completely blocked the river. Extremely disappointed, Herron decided on September 12 to abandon the rafts. For the next several days, the party followed the Swift Fork to its confluence with the Kuskokwim River (North Fork). Again building rafts, the men descended the North Fork for two days. Leaving the river on September 16, Herron, who by this time had virtually given up hope on finding an Indian village, decided to return to the September 4 cache. For the next three days, Herron's men walked nearly 40 miles along the

North Fork and Swift Forks, a notable feat considering the fact that both Herron and Jones had sprained ankles and that snow was already on the ground. Then, on September 19, the desperate men met an Indian on the trail.

As Herron tells the story, the Indian named "Shesoie" from Telida Village had been searching for the white men for some time. Having recently killed a bear in the area, and upon finding that the bear had eaten bacon, he realized that white men were somewhere nearby. He followed the bear's trail and found the cache into which the bear had broken and obtained the bacon. He then followed Herron's trail, and met the white men en route to their cache.

For the next week Herron and his men feasted on Shesoie's bear meat and what little supplies they had left, and through means of signs learned all they could of the area from the Indian. On September 27, the Indian led Herron's men to his village on the Swift Fork, some 25 miles distant. There the men remained for two months, resting from their ordeal and awaiting proper snow conditions for sled travel. On November 25, with four Indians as guides, the Herron expedition set out for Fort Gibbon via the Cosna River. They arrived at the military station with few mishaps on December 11, 1899.

Completed in March 1901, and published as a Senate Document in 1909, Herron's report was the first detailed description of the geography of the upper Kuskokwim basin. 11/ The map which Herron prepared for inclusion in the report, illustrates the proper location of the principal streams and lakes, identifies their Indian names, and shows the location of Indian settlements and trails in the basin.

In the matter of a land route of travel from tidewater to the Tanana River, Lieutenant Herron believed that the route of his expedition was feasible for travel, stating that the terrain from the place where he abandoned the horses to the Yukon River was the most favorable for travel he had encountered on the trip. 12/ But, in the final analysis, he favored a route from Kustatan in Redoubt Bay to Vinasale on the Kuskokwim River, and recommended its investigation. Unlike Cook Inlet, Redoubt Bay was free of ice throughout the year. And heavily-used winter trails extended from Vinasale to a village on the South Fork and to Nulato on the Yukon River where one could make connections with trails to St. Michael and Nome. 13/

All in all, the Herron expedition failed to locate a practicable route of travel from the Susitna River to the Tanana River along the base of the Alaska Range on the Kuskokwim side of the range. And so in 1902, the Geological Survey sent Alfred Hulse Brooks to make a reconnaissance of the routes, as well as to investigate reports of gold strikes on the Kuskokwim River, and to study the geology of the Mount McKinley area. The Brooks expedition traveled from Cook Inlet through the Beluga Mountains to the Skwentna River, thence across the hills to the Kichatna River, which they followed to its head. Descending Moose Creek to Happy River, they discovered the important Rainy Pass in the Alaska Range. They then followed Dalzell Creek and Tatina River to the South Fork of the Kuskokwim River before turning northeasterly to travel through the piedmont area of the Alaska Range into the Tanana River valley. 14/

The Brooks expedition was the last of the great expeditions in the basin. As a result of the work of Spurr, Herron, and Brooks, much of the basin was mapped, and the various land and water routes connecting the Kuskokwim River with the Susitna, Tanana, and Yukon Rivers were generally known. The Geological Survey and the War Department would in subsequent years send additional expeditions into the area, but their purpose was less of an exploring nature than to aid in the development of mining industries and transportation facilities.

III. MINING

While little is known about the beginning of mining in the Kuskokwim River basin, the available evidence indicates that American prospectors began to enter the basin in the 1880's. During his historic expedition of 1898, Josiah Edward Spurr of the Geological Survey learned from a trader in Cook Inlet that a number of prospecting parties had ventured into the basin following the Frank Densmore expedition of 1889. In his history of Alaska, Alfred Hulse Brooks, a director of Geological Survey operations in Alaska for many years, claimed that George Marks and Benjamin Beach made the first prospecting expedition into the basin in 1883. 1/ Brooks failed to mention the fact that in 1881 a prospecting party ascended the Kuskokwim River in a small boat to the vicinity of Kolmakov. There they investigated the mercury deposits long reported by Russian traders. 2/

now what you mean to say

Doubtless there were other men who explored the basin for precious metals. Their names are now long forgotten, and their experiences unrecorded. These early prospectors had to travel great distances in a region where trading posts were few and distant, and supplies essential for prospecting were seldom available. Unless they were prepared to spend years in the region, isolated from other white men and subject to many dangers, these prospectors devoted little time to panning the gravels of numerous streams. The majority preferred to work the newly discovered streams of the Fortymile River and Birch Creek in the Yukon region, and Turnagain Arm in Cook Inlet where gold was plentiful and the social amenities of mining camps were available.

The Klondike Gold Rush of 1897-98 radically changed the situation. Tens of thousands of men, women and children, rushed to Alaska upon learning of the famous strike on the Klondike River in Canada. While the majority were bound for the Klondike district, and in fact reached their destination, many people simply went to Alaska with the belief that Eldorado was just over the mountain pass. They congregated primarily in the Copper River, Yukon River, and Seward Peninsula regions and with time and much luck discovered rich deposits of gold, copper, coal, and oil. These discoveries sparked a number of stampedes, notably the Nome rush of 1899-1900 and the Fairbanks rush of 1902-03.

There were many gold rushes in Alaska during these years and not all of them were warranted. Oftentimes the appearance of a solitary prospector with a poke of gold in a new mining camp was enough to set off a minor rush. Sometimes it took only a rumor. The first gold rush to the Kuskokwim River basin originated with such a rumor.

The so-called "Yellow River" or "Pete McDonald" stampede to the Kuskokwim basin in 1900 was based upon rumors in Nome that someone had found the Yellow River, a placer-bearing stream reported long ago by the Russians. During the summer of 1900, a number of men from Nome rushed to the Kuskokwim River basin in search of the legendary Yellow River. Some ascended the river as far as the Stony River. The stampeders experienced great hardships during the winter of 1900-01,

now if you mention dead. in U foothills of Alaska

and with the first sign of spring many returned to Nome. An unknown number remained, however, to continue the search for gold. In 1901, another steamboat reached the confluence of the South and North Forks, where it remained for the winter. According to Alfred Hulse Brooks, a man named Dalzell traveled from the steamboat to Cook Inlet, possibly via Rainy Pass, with a group of Indians during the winter. 3/

The first gold rush to the Kuskokwim basin resulted in a number of gold discoveries. Prospectors found favorable prospects in the foothills of Mount McKinley, reportedly not far from the North Fork. Others made an important strike on Ophir Creek in the Aniak-Tuluksak district on the lower Kuskokwim River. Knowledge of this latter discovery in particular encouraged prospectors to explore the entire Kuskokwim River basin. With the organization of at least one trading firm at Bethel about 1901, the prospectors were able to acquire needed supplies and equipment in return for their winter catch of furs, and thus better equipped, began the systematic testing of local streams for placer gold. 4/

It was not until the summer of 1906 that prospectors finally found a bonanza---not on the tributaries of the Kuskokwim River but on the headwater tributaries of the Innoko River. During the summer of that year, a prospecting party consisting of Thomas Gane, F.C.H. Spencer, Mike Roke, and John Maki went into the headwaters of the Innoko River, probably by way of Takotna River, and found colors a short distance below the mouth of Ganes Creek. In August or September they located discovery claim on the creek. The prospecting party then returned to a trading post on the Kuskokwim River at the mouth of Takotna River in order to replenish their supplies. Finding a shortage of supplies on the river, the party returned to the Innoko River and followed that stream to the Yukon River. Sometime during the winter of 1906-07, they returned to Ganes Creek with a sled of supplies. 5/

During their trip for supplies, the discoverers of the Ganes Creek placers must have encountered a number of other prospectors, for news of the gold strike spread rapidly. The result was a gold rush to the Innoko River in 1907. During the months of February and March 1907, prospectors in the Kuskokwim River basin stampeded to Ganes Creek, followed by a number of men from Nulato on the Yukon River. In the spring of 1907, one A. Balke reported the strike to Nome, and the news was quickly telegraphed to Fairbanks. About 1,000 people from Nome and Fairbanks, most of them from Fairbanks, rushed to the new diggings. Ophir, Spruce, and Little Creeks, all tributaries of the Innoko River, were staked in the summer of 1907. 6/

The winter of 1907-08 was especially hard for the prospectors. There was a shortage of supplies and game was scarce. Faced with the possibility of starvation and disappointed to find the gold field limited in extent, about 250 prospectors left the country. Many more would probably have left if one Ole Gurdy (or Gerde) had not announced in February 1908 that he had found gold on Ophir Creek. Immediately some 200 men stampeded to the creek, leaving only three or four men in the short-lived camp named Moore City on Ganes Creek. 7/

Arriving at Ophir in March 1908 after an arduous journey over the Rainy Pass trail from Cook Inlet, Walter L. Goodwin of the Alaska Road Commission found the new camp in a state of excitement over the new discovery. Men were building log cabins and preparing to mine. The camp was in dire need of provisions, however. Some prospectors were hauling flour and sugar by dogsled from McGrath, 46 miles distant, and some were bringing food and clothing from Kaltag and St. Michael. Only two tons of flour, all of it damaged, and 1,800 pounds of sugar *was* available at the McGrath post. The flour sold for \$12 at McGrath, and resold at Ganes Creek for \$35. All canned goods cost \$1.00 per can, but no one was willing to sell. 8/

*what food & clothing
was at
Kaltag?*

News of the strike on Ophir Creek spread rapidly throughout Alaska, and soon hundreds of men were rushing to the diggings by way of the Kuskokwim and Takotna Rivers, or the Yukon and Innoko Rivers. The Kuskokwim Commercial Company, which was incorporated in 1909, established two stores on the Takotna River, at the foot of the portages to the headwaters of the Innoko River. With the opening of navigation on the Yukon River, half a dozen steamboats left Fairbanks with some 500 people and several hundred tons of cargo. The steamboats ascended the Innoko River a considerable distance before low water forced the prospectors to utilize poling boats and horse-drawn scows to reach Ophir. Several stores were subsequently established at various points on the Innoko River where the steamboats were forced to discharge passengers and cargo. 9/

when 1865-1866?

With the establishment of various trading posts and riverboat service on the Kuskokwim, Takotna, and Innoko Rivers, prospectors were assured a source of supplies and equipment, and thus were able to prospect more intensively than had been possible in earlier years. According to Alfred G. Maddren, an official of the Geological Survey who made a hurried trip up the Innoko River in the summer of 1908, about 150 people remained at Ophir during the winter of 1908-09, and many more were scattered throughout the Kuskokwim and Innoko basins. 10/ These prospectors made numerous gold discoveries, some of them causing relatively large stampedes. The stampedes to Iditarod River in 1909, George River in 1910, and Tolstoi River in 1916, are among the most notable of the Alaska gold rush era.

With the passing of the gold rush era, the low-grade placer field in the upper Innoko River, also known as the Innoko mining district, supported many profitable open-cut mining operations, and beginning in the early 1920's major dredging operations. Until the early 1940's, four dredges were generally operated in the district, principally on Little, Yankee, and Ganes Creeks. Dependent upon riverboats on the Kuskokwim and Takotna Rivers for the transportation of heavy freight to the placer grounds, mining on the upper Innoko River was a significant, if not a dominant, factor in the economy of Takotna and McGrath for many years.

Although none sparked a stampede comparable to the Ganes Creek rush or the Iditarod rush, which involved more than 1,000 people, important discoveries were also made in the upper Kuskokwim basin, principally on the tributaries of the South Fork, Big River, and Takotna River.

The development of hard-rock mining on Nixon Fork, and dredging on Candle Creek in the 1910's and 1920's, and hydraulic mining on Moore Creek in the 1930's, attracted a great deal of attention to the upper Kuskokwim basin, but no major discoveries were made.

SOUTH FORK OF THE KUSKOKWIM RIVER

Hartman River, a headwater tributary of the South Fork, was the scene of several minor gold rushes in the late 1900's and 1910's. Traveling through the area in 1898, Josiah Edward Spurr found gold near the mouth of Styx River. 11/ Not many years thereafter, various prospectors began to investigate the tributaries of the South Fork in the Alaska Range, some traveling from Cook Inlet and others from the Kuskokwim River. C. Edward Cone, the reputed discoverer of gold on Hartman River and a well-known poet of the area, crossed one of the passes from Susitna River on two occasions to prospect the river. In the winter of 1914, he made another trip to the river, this time going in by way of the Kuskokwim and Big Rivers with John O. Strand and a two-year outfit. 12/

It is not known precisely when Cone discovered gold on the river. When W. E. Priestley traveled from McGrath to Cook Inlet via Rainy Pass in the winter of 1908-09, he learned that a party of prospectors had found favorable prospects on Hartman River earlier in the winter. 13/ Evidently reports of the prospects attracted some attention, for Gordon Bettles and M.W. Sinclair made a long journey from the Kantishna River to the South Fork, following the eastern foothills of the Alaska Range, in the summer of 1909. They spent two months on the South Fork before rushing to Iditarod in October 1909. 14/

In 1911 and 1912, additional strikes were made, resulting in several small rushes during the winter months. Apparently little was found, for in 1915 there were only 11 people prospecting on the South Fork. 15/ The South Fork continued to attract prospectors, however. As late as 1922, Joe I. Wills, George Daykin, and several other prospectors were reported en route to the head of the South Fork. 16/

BIG RIVER

The headwaters of Big River also attracted some prospectors. In early 1908, Walter L. Goodwin noted that some prospecting was being done on the river, and observed one party breaking a winter trail about 10 miles east of McGrath to quartz prospects. 17/ In the winter of 1908-09, W.E. Priestley and an Indian guide named "Esi" ascended the river for a distance of 75 miles, and discovered coal of fairly good grade. Priestley sent samples of the coal as well as a report to Alfred Hulse Brooks of the Geological Survey, who subsequently acknowledged Priestley's discovery in his book, The Mount McKinley Region. Priestley was told that there were white men on the river, but he did not encounter anyone. 18/

The quartz prospects reportedly located on Big River, may have actually been on Windy Fork, a tributary of Big River. A local newspaper reported in March 1928 that one Tom Conley had quartz

prospects on Windy Fork, and that he had just left McGrath on snowshoes for his property. Nearly 10 years later, he was again reported in McGrath, preparing to return to his property with a load of winter supplies. 19/

In later years, reports of mercury deposits at White Mountain, about 60 miles southeast of McGrath, attracted the attention of the U.S. Bureau of Mines. Initiating work in the area about 1961, the Bureau produced the first concentrate in 1964. The concentrate was flown out of the area in a small private airplane. 20/ It is presently unknown whether the mercury deposit is being developed.

TAKOTNA RIVER

Of all the rivers in the upper Kuskokwim basin, Takotna River has received the greatest attention by prospectors. Successful mining operations in the McKinley district have occurred on Moore Creek, Candle Creek, and Nixon Fork. The only hard-rock mines in the entire Kuskokwim River region are located on the headwater tributaries of Nixon Fork.

Moore Creek

Placer gold was discovered on Moore Creek by A. A. "Tony" Zimmerman in 1908. For many years the claims were worked by only three or four men with the crudest methods. Visited in the early 1920's by Geological Survey officials John B. Mertie, Jr. and George L. Harrington, the diggings were located on the upper part of the creek, about 10 miles below its source. The miners, numbering about eight men, used pick and shovels to obtain gold, and hydraulic methods to strip the overburden. The water was brought from Willow Creek. According to Cecil Barlow, a miner, Moore Creek had produced about \$100,000 in gold by 1922, and promised to produce a great deal more. 21/

Barlow's optimism was not unfounded. From 1935 to 1940, Moore Creek was the largest individual producer of placer gold in the McKinley district. In 1935, Waino Kaskinen with five employees began hydraulic mining operations on the creek. Two years later, the Moore Creek Mining Company installed a dragline, formerly used on Slate Creek in the Iditarod district, on Moore Creek. Using the dragline and bulldozers, the company enjoyed very successful seasons. The Fairbanks Exploration Department did extensive drilling on the creek in 1937, but the results of the tests were not made public. As U.S. Bureau of Mines records do not reveal subsequent development work, mining on Moore Creek apparently ceased in 1940. 22/

Candle Creek

The Candle Creek placers were discovered in 1913, and mining began on a four-claim association in the following year. In the winter of 1915-16, Dan McDonnell and Billy Bevans discovered favorable prospects in an ancient channel of the creek on ground leased from miners Thomas P. Aitken and Tom McKinnon. Forming the Kuskokwim Dredging Company, Aitken, McKinnon, and Henry Riley constructed a

sled road from McGrath to Candle Creek, and transported dredge material to the creek. In 1918, the dredge began operating, but was not very successful due to mechanical problems and large boulders in the creek. The dredge finally became a producer in 1919, and continued to operate until the fall of 1926. 23/

For the next 10 years, placer mining continued on Candle Creek on a small scale. Then, in 1937, Dave Strandberg with his sons began extensive development work on the creek. For a short while 30 men were employed in constructing a road from Candle Landing (Sterling Landing) on the Kuskokwim River to the creek, stripping the overburden, and installing mining machinery, including a dragline, on the creek. Beginning production in September 1937, Strandberg & Sons, Inc. mined on the creek until 1941. The company resumed operations in 1946, only to suspend work in the period 1947 to 1949. From 1950 to 1952, Strandberg & Sons operated a floating bucket-line dredge on the creek. Unable to compete for labor with military contractors working on the Tatalina station, the company finally halted work on Candle Creek in 1953, and shifted its attention to exploration and development work on the Nixon Fork lode mines. 24/

Nixon Fork

Placer gold was discovered in the headwaters of Nixon Fork during the summer of 1907, and a small rush to the strike occurred. Another strike was made by a prospector named Theodore Von Frank in the winter of 1909-10 on Von Frank Creek. As Von Frank had written a letter to a friend in Fairbanks about his discovery, news of the strike spread rapidly, and more than 100 people from Fairbanks rushed in March 1910 to Nixon Fork. They staked several hundred claims near Von Frank's cabin on the Nixon Fork before leaving the section. Unknown to them, Von Frank's discovery was located some 20 miles upriver from his cabin. Thus, in April, when the stampede had left, Von Frank with his friends ascended to the site of the discovery, and staked the creek. No major finds were subsequently made, however. Various reports in 1910 and 1911 indicate that only 20 to 25 men were on Nixon Fork, most of them on Flat Creek, and some on Bonita, Hunker, Falls, Alder, Von Frank, Canyon, and Whirlwind Creeks. According to Wilbur F. Green, the U.S. Commissioner at Takotna, the prospects were disappointing. 25/

Then, in June 1917, a prospector named F.E. "Dick" Matthews discovered gold placers on Hidden Creek. Determining that the gold was more plentiful as it was followed up Hidden Creek, but that above certain points it was no longer found, J.O. Pearson and John O. Strand sank several shafts at the limits of the placer gold in the fall of 1918. They discovered several high-grade lodes, including the Crystal lode at the head of Ruby Creek. Taking an option on the Pearson and Strand claims, Thomas P. Aitken, a well-known miner heavily interested in dredging operations near Iditarod, mined several hundred tons of high-grade ore during the winter of 1919-20. The ore was transported over a newly-constructed sled road to the Kuskokwim River, and with the opening of navigation shipped to Bethel on small boats, thence to the smelter at Tacoma, Washington on the steamship Ozmo.

The Pearson and Strand claims, as well as neighboring claims, were subsequently taken over by the Treadwell Yukon Company, Ltd., a subsidiary of the Alaska Treadwell Gold Mining Company of Juneau. During the summer of 1920, the company actively prospected the claims and constructed a wagon road to Berry's Landing, now known as Medfra, on the Kuskokwim River. In the following year, Livingston Wernecke, a geologist and mining engineer, supervised the installation of a 10-stamp mill and the construction of several buildings. The mill began operating in 1921, reportedly producing \$114,024 in gold in the first months of operation. Most of the ore came from the Whalen and Griffin property.

Upon finding the ore supply less than expected, the Treadwell Company halted work on the various mines in 1923, except for the Whalen mine from which most of the high-grade ore was obtained. In 1924, the company leased this mine and the mill to an association consisting of E.M. Whalen, Clint Wynan and two others, who then milled the ore which had been mined during the winter. After the clean-up operations, the various mines reverted to the original owners. The total output from the mines was estimated to have been \$235,000 in gold. The Treadwell venture was generally admitted to have been a loss. 26/

During the 1920's and most of the 1930's, various miners continued working on the Nixon Fork lodes and placers on a small scale basis. In 1946, the Nixon Fork Mining Company mined the property owned by Mespelt & Company under a purchase contract, and recovered 561 ounces of gold and 169 ounces of silver. 27/

Little work was subsequently done to develop the various lodes, although Strandberg & Sons, Inc. attempted limited operations in the 1950's and 1960's. In 1961, lode gold mining on Nixon Fork was almost at a standstill. According to one report, the total production from the several lodes through 1942 was estimated to have a value of about \$1.3 million. 28/

IV. HUNTING, FISHING AND TRAPPING

Before and during the gold rush era, the upper Kuskokwim Indians were a migratory people, small bands moving from one place to another within a definite territory according to the seasonal migrations of fish and game. While it is not possible to say that the Indians occupied "villages" as the term is generally understood, it appears that the Indian bands customarily spent their winters near a lake or clearwater tributary of the major streams in the basin and not far from the hunting grounds in the foothills and mountains. Few archaeological investigations have been conducted in the basin, and so the location of all winter camps are not precisely known. Local tradition indicates that camps were located on the Swift Fork, the upper reaches of the East Fork and South Fork, the Little Tonzona River, Big River, and Takotna River, near Telida Lake, and occasionally near Farewell Lake.

During the long winter months the Indians generally fished on a nearby lake, trapped beaver, and periodically hunted caribou in the foothills of the Alaska Range. Some bands might spend the entire winter in the foothills, hunting caribou and sheep. In early spring, before the disappearance of snow on the ground and the breakup of the river ice, the Indian bands in the South Fork Big River section traveled as a group in an annual hunting trip to the foothills. Frequently, they spent the entire summer hunting caribou, sheep, and bear in the foothills. Some returned to the lower elevations in birchbark canoes in order to prepare for the fishing season. Others would follow later in the year in canoes or, if loaded with a great deal of dried meat, in bullboats of caribou skins. Some meat would be cached in the mountains for later use in the winter by hunters.

The late summer and fall months generally found the Indians located on small clearwater streams, fishing for salmon and whitefish with nets, traps, and weirs. Occurring in the fall, the salmon runs were limited to the tributaries of the Big River and the South Fork. Whitefish were caught in June and late fall at the outlets of lakes. In addition to fishing, the Indians hunted waterfowl, hares, ptarmigan, willow grouse, and spruce hens, and made periodic trips to the caribou grounds.

In late fall, the Indians began the important caribou hunt in the foothills, following established summer trails to the hunting grounds. Driving caribou into fences, they would often kill large number of animals. Some meat was stored for use in the winter by small hunting expeditions, or for later transport to the winter camps when snow on the ground made the use of sleds practicable. Some Indians would haul the meat in canoes or bullboats in late October or early November to the winter camps. 1/

With the establishment of white communities, mining camps, trading posts, and roadhouses in the basin in the late 1900's, the lifestyle of the upper Kuskokwim Indians underwent significant changes. Former fish camps, some of them located near the roadhouses, became small villages, as the Indians sought employment at the roadhouses as guides, freighters, dog handlers, and cooks. Moreover, the Indians sold fish to the roadhouses as dog food, as well as caribou, moose, and sheep meat to the roadhouses and white

settlements for human consumption. And many Indians found the roadhouses ready to accept furs in exchange for certain goods. Both white and Indian hunters and trappers were to have an important effect on the game populations in the basin during the 1910's and 1920's.

During the winter months, the Indians generally remained at the villages. Occasionally, hunters would travel to the foothills for big game, and if the hunt was successful, transport the meat to a nearby roadhouse, white settlement, or their own village. The Indians, according to one account, seldom traveled more than two or three miles from the village to trap fur-bearing animals. 2/

In early June, the Indians began to prepare for the fishing season, setting traps and weirs in small streams. Some descended the South Fork to visit relatives at Vinasale, and to establish fish camps. Later in the summer, an Orthodox priest would arrive, and the Indians would accompany the priest to Nikolai. Following the priest's visit, they then traveled to the foothills of the Alaska Range. According to Hosley, the journey was an impressive affair, as many as 40 or 50 people ascending the South Fork in canoes to the summer trail on the Little Tonzona River. During July and August, the group hunted moose and caribou, and some sheep, drying the meat on the spot for winter use. In early September, they then descended the South Fork in canoes and bullboats to their respective villages and fish camps. The remainder of the season was then devoted to intensive fishing.

Beginning in the late 1910's and continuing through the 1920's, the Indians' lifestyle evidently shifted in emphasis from hunting to fishing and trapping. The destruction of large numbers of moose, caribou, and sheep in the basin by whites and Indians alike, especially following the introduction of repeating rifles in the area, doubtless was an important factor in the change. The closing of the roadhouses on the Rainy Pass trail in the early 1920's; the employment opportunities at the mining camps on the Takotna and Innoko Rivers; and the introduction of the fishwheel, which permitted fishing in the large silt-laden streams; all were important factors. By 1932, according to Hosley, the caribou ceased to be of importance in the Indians' economy. The open season was largely devoted to fishing. Some hunting for moose on the lower reaches of the rivers occurred in the fall. As Hosley put it: "Dried fish and moose meat replaced dried caribou as the main staple secured for winter use." 3/

By the late 1920's, as "market hunting" waned, big game populations in the basin were increasing rapidly. In 1929, Oddie Hallson, a warden of the Alaska Game Commission at McGrath, reported that moose and sheep populations were relatively large. The number of moose was rapidly on the increase in the Big River, South Fork, and North Fork sections, especially in the latter. Earlier, he wrote, "moose were killed by the boat load and brought to McGrath for sale." Oftentimes moose were killed indiscriminately and left to rot by some people. Arthur Berry of Medfra was one of the worst offenders, sometimes bringing moose to his post by the scow load and sometimes leaving moose lay where killed under some conditions. Hallson noted with obvious satisfaction, however, that Berry had "turned over a new leaf," the Commission's wardens having troubled him by seizing "239 beaver skins at one time and at other times, marten skins, a mink skin, two live land otters, and a moose quarter...." 4/

Mountain sheep had also been decimated during the "market hunting" years. Hunters on both sides of the Alaska Range had taken sheep to be sold in nearby mining towns, and of course the roadhouse proprietors had taken a steady toll. By 1929, however, their numbers had increased so that, according to Hallson, "the few trappers on the South Fork and Post River...can shoot them from their cabin doors." In general, the sheep were "almost unmolested by man," although Indians of Nikolai, Slow Fork, and Telida occasionally killed a few. 5/

Although "market hunting" was permitted on occasion in the late 1940's, beaver trapping became a major winter occupation for Indian and white trappers in the late 1920's and 1930's. In a few years, however, even the beaver population was decimated. Records of the Alaska Game Commission indicate that in 1927 and 1928 trappers took 904 and 670 beaver, respectively, from the Takotna River and Nixon Fork, and 1,526 and 1,992 beaver, respectively, from the North, East, and South Forks as well as the Tonzona River. For the years 1930 and 1931, however, 324 beaver were taken from Takotna River and Nixon Fork, and 916 from the tributaries of the upper Kuskokwim River. 6/

For most of the 1930's the beaver population in the basin along the rivers was low, apparently the result of overtrapping. In 1930, Chief Davian (or Devan) of Nikolai Village requested an open season on beaver and marten, claiming that his people were destitute. Two years later, he requested that the beaver season be opened during the month of May with shooting and bag limits of 15 permitted. He claimed that trapping contributed to the decline of the beaver by not discriminating between male, female, and young beaver. He noted that 70 percent of the animals trapped in the spring of 1934 were females. 7/

In the mid-1930's, T. Eugene Tibbs, the warden at McGrath, finally recommended that the beaver season in the district be closed for two years at a minimum. He reported that beaver populations on the Takotna River and Nixon Fork were very low. Most people trapping the small tributaries and lakes were forced to search hard in order to obtain their limits. Beavers were very scarce on the North Fork of the Kuskokwim River, as well as on Pitka Fork, which in earlier times was a "fine beaver stream." Tibbs recommended that the closed season apply as well to "the many lakes, swamps and small streams which are almost inaccessible to the trapper limited to fifteen beaver skins, where the beaver are still numerous." 8/

With the closing of the beaver trapping season, it was hoped that beaver in the inaccessible areas would eventually migrate to the main routes of travel. It was generally understood that the beaver population was high in the inaccessible areas. Perhaps the best statement of this view came from Bernard Ivey of McGrath:

There is an abundant supply of breeders left in the lakes along the rivers. As to the small streams that feed beaver into the rivers and lakes, they were never touched. Everybody here rides in their boats along the river and sees all the outlets of lakes. They get out, go a few steps to the lakes and shoot all they can. Then they go back to the next one. I have never known

of a single one of the beaver hunters to go back on the small streams for beaver as it is hard work travelling over the tundra. Most all like to get them easy, riding in their boats.
9/

Citing two men who killed 24 beaver in just three days by riding about in a boat with a outboard motor in the spring of 1934, Ivey wrote that beaver were plentiful 30 or 40 miles away from the major streams where no man visited. Hunters believed that the bag*limit on beaver was so small that it was not worth the effort to trap the generally inaccessible areas when they could obtain their limits near their homes. 10/

Writing in 1936 or 1937, Tibbs again recommended a closed season for beaver for one or two years, believing that that should be ample time for beaver in the inaccessible areas to migrate to the major streams. He observed that the main supply of beaver were in the more remote streams, lakes, and swamps, which trappers seldom visited partly due to the limit on bags. In addition, he wrote:

"The trappers of this section, especially the natives, trap and hunt beaver almost entirely from a canoe or boat, as that is the only manner possible to get over the country in the spring. This tends to confine beaver taking to the larger streams, where there is usually enough water to use a canoe in, even before the ice has moved. This concentration of beaver taking to the main streams thins those streams down very low." 11/

Despite conservation efforts, beaver populations apparently never regained their former levels. With the airplane coming into general use in the late 1930's, trappers often located in remote areas where some took heavy tolls on the fur and game. With the Second World War, local residents found employment in the construction of military facilities as scouts and plane observers with the military. After a brief revival during the war, the fur market again declined.

Following the war, local residents were dependent upon a variety of sources of income, including government welfare in the early 1960's. During the winter months, the Indians generally trapped beaver, marten, mink, muskrat, otter, lynx, and wolverine. No limits were set for these game except beaver which varied from 15 to 25 pelts annually. This limit was, however, seldom filled. Greater attention was given to muskrat, which one usually killed by rifle shot from boats or canoes in the spring. As many as 200 muskrats may be killed by one person in season, which extended from November to June. Muskrat populations vary annually, so the bags varied considerably each year. 12/

Following the spring breakup of the river ice in May, the men in the villages departed for the summer to seek employment at the mining camps, McGrath, or elsewhere. Usually they assisted in the setting up of fish camps before their departure. While many of the camps are located on the Kuskokwim River near Medfra, some are located near the traditional fishing sites. The Mishka Deaphon family customarily established a camp on Salmon River; the Seseui family, at the outlet of Telida Lake; and the Mishka Alaxia and Phillip Esai families, on the Itzulkashno, a tributary of the

Little Tonzona River. All are reached by boat, usually a flat-bottomed craft from 14 to 24 feet long, locally constructed from spruce logs taken along the North Fork of the Kuskokwim River. These boats are powered by gasoline outboard motors, which range from six to 30 horsepower, although most range from 12 to 15 horsepower. In addition, most families have small canvas-covered canoes, which are used for portaging and hunting in the spring on lakes and sloughs. 13/

From June to August, the men without steady jobs, built and repaired boats, fished, occasionally hunted, cut wood, fought fires, and performed other miscellaneous tasks. In August, they are occupied in cleaning and drying fish. Later in the month, they hunted moose, usually ascending Big River or the North and East Forks of the Kuskokwim River in boats. Then they prepared for the winter - - - harvesting gardens, repairing cabins and boats, cutting wood, and so on. Some hunting may be done in the freezeup period. Then, in November, the trapping season began. The Indians generally remained in the village during the winter, although periodic trips were made to Medfra and McGrath. 14/

V. COMMUNITIES

Prior to the gold rushes to the upper Innoko and Kuskokwim Rivers, the only communities in the area were small Indian villages. Located near most of the largest streams in the basin, these villages were occupied primarily during the winter months, the Indians scattering in the summer to small clearwater streams where they engaged in fishing. During the gold rush period of the late 1900's and early 1910's, white settlements were established on the Takotna River. Serving outlying mining camps and itinerant trappers, the communities of McGrath and Takotna were occupied throughout the year. These towns generally had a larger population in the summer than in the winter, for it was usually in the early days of summer that miners returned to the towns en route to mining camps, and trappers and prospectors returned from their winter headquarters to replenish their supplies for another season.

The white settlements and the Indian villages and fish camps were tied together by a system of waterways in the summer, and by trails in the winter. The Rainy Pass and Nenana-McGrath trails were the principal routes of overland travel in the basin, and linked nearly all of the communities in the basin with one another. In view of the relatively heavy amount of traffic on the trails, some white prospectors and trappers as well as Indians established roadhouses on the trails, providing shelter and food to travelers. With the exception of those in McGrath, Takotna, and Medfra, the roadhouses were open for business during the winter months only. Many of the roadhouses were located near Indian winter villages, where the proprietors obtained game for their clients and fish for the dogs from the Indians. Also, the proprietors conducted a fur-trade business with the Indians, and occasionally employed Indians in the general operation of the roadhouse and in driving passengers and freight from one roadhouse to another. The roadhouse-trading post was an important factor in the lives of the Indians, so that when the trails and the roadhouses were abandoned in the 1930's, the Indians also abandoned their winter villages, the majority of them moving to Nikolai Village.

NIKOLAI VILLAGE

The earliest winter villages in the upper Kuskokwim basin were located on the Swift Fork, the Slow Fork, the East Fork, and the South Fork of the Kuskokwim River, as well as on the Big and Takotna Rivers. Located on the South Fork, Nikolai Village was the first to be visited by white men. Today, it is the largest Indian community in the basin.

Recent anthropological investigations have revealed that the village of Nikolai has been relocated at least three times since the early 1880's. "First Old Nikolai" (NE1/4; T. 33 N., R. 26 W., S.M.), occupied throughout the year, was located near the mouth of the Little Tonzona River, a salmon spawning stream. Its location permitted ready access to hunting grounds in the foothills, and occasional trips by groups of 10 or more to the trading post at Susitna Station. At the time that this village was occupied, the Indians also had a small village near Farewell Lake which was used during the fall and winter hunting excursions, as well as a fish camp on the Little Tonzona River, near the mouth of No Creek.

According to Elizabeth F. Andrews, an anthropologist at the University of Alaska, traders ascended the South Fork in a steamboat, sometime in the late 1880's. The steamboat ran aground some distance below the winter village. The Nikolai band thus moved their village to the steamboat landing, thereby founding "Second Old Nikolai" (SW1/4, T. 28 S., R. 24 E., K.R.M.), the same village reported by Herron in 1899 with a population of six adult males. The site was continually subject to floods and so, following an influenza epidemic which decimated their numbers, the Nikolai band relocated their village to higher ground a short distance downstream in 1918. "Third Old Nikolai" (NE1/4, T. 29 S., R. 24 E., K.R.M.) was occupied for a brief time before the village was finally moved to its present location. 1/

Andrews' account differs substantially with that of Edward H. Hosley, another anthropologist who spent two summers in the basin in the early 1960's collecting information for a dissertation on the McGrath Ingalik. According to Hosley, winter villages were located on Farewell Lake, the middle South Fork, and near the mouth of Little Tonzona River. By 1900, the village near the Little Tonzona River was evidently the established village. In early 1901, the first Orthodox priest visited the area, and held services at the village. In the fall of that year, six prospectors on a small steamboat ascended the South Fork as far as the mouth of the Little Tonzona River, and spent the winter at the village, trading for furs and prospecting for gold. In the summer of 1902, the steamboat returned to the Kuskokwim River.

For reasons not given by Hosley, the Nikolai band moved to "Old Nikolai Village," located about eight miles upriver from the present village site, about 1910. In 1914, a church was built at the village. Due to floods and subsidence, the village was relocated to its present site in 1924. A few years later a new church was constructed. 2/

Another version of the early history of Nikolai Village comes from Wendell H. Oswalt, also an anthropologist. According to Oswalt, there were at least two villages on the South Fork in 1900. The oldest village, occupied by the Petruska and Dennis families, was located somewhere on the South Fork, probably above the Little Tonzona River; it was abandoned sometime in the years 1900 to 1905. In addition, there was a village near the mouth of the Little Tonzona River. Apparently this was the village visited by Spurr in 1898 and seen from afar by Herron in 1899. In 1892 or 1902, a Russian Orthodox priest visited the village, and advised the Indians to move to a place where a "John Holton" and four traders were wintering on a steamboat. The Indians heeded the advice, and a chapel was built in the new village.

The village was repeatedly flooded, and so about 1916 the Indians began to move the village to its present site. Visiting the place in 1919, John H. Kilbuck, a missionary on the lower Kuskokwim River, described the village as a "potlatch center" with a population of nine, and reported that a white man named V. Van Pelt had been living there for at least five years.

3/

The historical records bear out these accounts, although there are considerable differences in the matter of details. There is, for example,

no available record that a steamboat ascended the South Fork in the early 1880's. It is extremely doubtful that a steamboat even reached the South Fork, considering the state of economic development in the region at that time. Moreover, there is no available record that the steamboat which reached the South Fork in 1901 actually ascended the South Fork a considerable distance, although it is quite possible that it did. In the late 1900's, traders did in fact ascend the South Fork in a steamboat. Interestingly enough, the captain of the steamboat was a "Holtman" or "Holten."

The first contact with the Nikolai band was evidently made by the Spurr expedition of 1898. Descending the South Fork in canoes, the Spurr party encountered a camp of Indians on July 27. According to Spurr, the Indians were "badly frightened" by the appearance of the white men, and it took some effort to calm them before negotiating by means of signs---the Indians understanding neither Russian nor English---for an exchange of tobacco for fish. These were the only Indians that Spurr encountered on the South Fork. He had found many old hunting camps in the headwaters of the South Fork, and saw the remains of villages on the lower reaches of the South Fork. Having observed only one or two Indian families living together in small temporary camps in the basin, Spurr concluded that they were "a poor and scattered folk, wandering continually from place to place, and possessing no villages of any kind, not even such wretched ones as do the Eskimos of the lower river." 4/

On his reconnaissance map of the South Fork, Spurr indicated only one village on the river, evidently the camp which he encountered on July 27. He indicated the village as being located on the right bank of the South Fork. Since Spurr did not illustrate the course of the Little Tonzona River, it is difficult to say whether the village was in fact of Old Nikolai. It is known, however, that the village was located some distance from the foothills, for Spurr records that on the day that he encountered the camp, "the water suddenly grew slacker till it entirely changed its aspect and was a slow placid current flowing through silt banks." 5/ In the early 1910's, Alfred G. Maddren of the U.S. Geological Survey used Spurr's map to prepare a new map of the upper Kuskokwim basin; he illustrated the location of one village on the left limit of the South Fork about eight miles above the mouth of the Little Tonzona River, and another village near the mouth of the Little Tonzona River. 6/

When in 1899 Herron traveled through the area, he observed two Indian villages, both deserted, on the Little Tonzona River. He later learned from the Indians at Telida that about 20 Indians occupied the winter village on Little Tonzona River, and even obtained the names of the adult males, one of them named "Nikoli" being the chief. On his map of the area, Herron located one village at the mouth of Little Tonzona River, on the north bank. The other village was situated some distance upstream on the Little Tonzona River, where numerous small streams empty into the river. 7/ This village may have been a fish camp occupied annually by the Indians of "First Old Nikolai." In more recent years, the families of Mishka-Alaxia and Phillip-Esai maintain a fish camp on the Itzulkashno, a tributary of the Little Tonzona River, located some 20 miles upstream from Nikolai. The Itzulkashno is narrow and deep, permitting the use of traditional fishing structures, such as weirs. 8/

During the gold rushes to the Innoko River, and later to Hartman River, Nikolai became an important station for travelers on the Rainy Pass trail. Crossing Rainy Pass from the Susitna side in early 1908, Walter L. Goodwin of the Alaska Road Commission found Chief "Nicholi" and two women at "Nicholis," which Goodwin supposed was at the mouth of Little Tonzona River, although he did not actually see the river. Nicholi guided the Goodwin party to Nicholomas, a village on the Kuskokwim River opposite the mouth of Big River, about 20 miles distant by trail. Goodwin may have underestimated the distance between the two villages, for in March 1909 W. E. Priestley traveled over the trail from Big River to Nikolai on his way to Rainy Pass, and estimated the distance at 30 miles. Priestley met and photographed the chief known as "Old Nikolai," who was part Russian and had spent several years at one of the Russian missions on the Bering Sea coast. According to Priestley, the chief stated that he had once gone to Susitna River by way of the winter trail. 9/

As the volume of traffic on the Rainy Pass increased, local traders apparently established a trading post and roadhouse near Nikolai village. In 1909 and again in 1910, traders ascended the South Fork a distance of 35 miles in the small steamboat May D. About the same time, Hudson Stuck learned that there was a roadhouse at Nikolai, located about 40 miles above the junction of the North and South Forks. 10/ In early 1911, the Alaska Road Commission cut a new trail from Big River to Rainy Pass which bypassed Nikolai Village. Despite the loss of traffic, the trading post continued to be operated by a George VanPelt, who was in charge of the post in 1914. The post may have been operated until the early 1920's, for in 1922 a Leonie Nohl VanPelt was attempting to obtain compensation for services as a teacher at "Nikoli" from the U.S. Bureau of Indian Education. 11/

Beginning in the winter of 1921-22, Nikolai Village again became a station on the winter trail, this time the Nenana-McGrath trail. A roadhouse, operated by an Indian, was located in the village, which was 21 miles from the Big River roadhouse, nine miles from the East Fork cabin, and 12 miles from Medfra. 12/ In the winter of 1923-24, the Alaska Road Commission constructed a trail from the East Fork cabin directly to Medfra, thereby diverting most traffic away from Nikolai. Some travelers continued, however, to take the old Nenana-McGrath trail via Nikolai as late as 1926. 13/

Present-day Nikolai is located about 14 miles by winter trail from Medfra, or 35 miles by river. In the late 1940's, a Territorial school was constructed at the village; and in the early 1960's, an aviation field for small airplanes. The field was built at a site several hundred yards north of the village. The village itself is located mostly on high ground, rising about 20 feet above the bed of the South Fork and sloping to a bank, eight feet high, which drops into a shallow slough. The slough is separated from the main channel of the South Fork by an island, which is flooded at times of high water. In 1960, the village consisted of about 20 families in about 18 log cabins. 14/

TELIDA VILLAGE

According to several anthropologists, the village of Telida has been relocated at least three times. The earliest winter village, known as the "1899 village," which Herron visited in that year, was located about one mile by trail, or three miles by river, downstream from Carl Seseui's fish camp on the Swift Fork of the Kuskokwim River. In 1900, the Swift Fork changed its course, and so the Indians relocated to "Old Telida," which was about 0.5 mile upstream from Seseui's fish camp or about one mile above Telida Creek. Sometime in the late 1910's, the Indians moved their village to its present location, which became known as "New Telida." However, Old Telida continued to be occupied by the Seseui family until about 1935 when floods forced the family to move to New Telida. 15/

Anthropologist Edward H. Hosley writes that the Indians of Telida encountered white men long before the Herron expedition of 1899 visited the village. Carl Seseui, a local resident, informed him in the early 1960's that sometime in the mid-1800's his grandfather traveled to Russian Mission on the Yukon River and returned with the first samples of tea known in the upper Kuskokwim basin. 16/ Nevertheless, it is fairly certain that Lieutenant Herron's party were the first white men to visit the village. Herron and his men remained at the village for most of November 1899 before traveling by dogsled to Fort Gibbon at the mouth of the Tanana River. Herron recorded that the village consisted of 17 people in four families, and a cemetery with one grave. 17/

In subsequent years, few white men visited the village, since it was not on the established route of summer travel. Prospectors and trappers on the North Fork, however, sometimes encountered Telida Indians on the river. More than one white man reported meeting "Chief Soo Suey," "Sheshuey," "Shesuie," or "Karl Sesouie" near the mouth of the Swift Fork. Lee R. Dice, a game warden, met Seseui near the mouth of Swift Fork in June 1912, and learned that his village of Telida was located about 10 miles overland or 25 miles by river up the Swift Fork. Taking the winter trail from Lake Minchumina to Takotna and Iditarod in the winter of 1913-14, Hudson Stuck may have visited the village. In Iditarod, he reported that many Indians in the upper Kuskokwim basin had been struck hard by disease. In 1913, the adults were ill with measles; and in 1914 the children suffered from diptheria. In one village, he said, 14 children died in one night. 18/

Beginning in the late 1910's, the village began to receive increasing numbers of visitors. In 1918, an Orthodox chapel was constructed at Old Telida, and a priest frequently traveled to the village for services. A group of Indians generally accompanied the priest on the journey up the North Fork and Swift Fork. 19/ When in the winter of 1920-21 the Nenana-McGrath trail became the popular route of winter travel between the Government railroad and the Kuskokwim drainage, several hundred travelers were to visit the village each year. A roadhouse was established at New Telida; it was operated by a Sergio and the daughter of old Wassalei, who charged visitors \$1.50 for each meal. The roadhouse may have been operated as late as 1930. 20/

In the summer of 1949, several archaeologists of the University of Alaska visited Telida village, having been informed by B. A. Stone, a local trapper, of old village sites in the vicinity of Lake Telida. In June 1949, the archeologists chartered an airplane from Northern Consolidated Airways of Fairbanks, and flew from Fairbanks to Lake Telida. They found no one at New Telida upon their arrival. In early July, however, Carl Seseui arrived in a motor boat from the lower Swift Fork. About 60 years old in 1949, Carl Seseui was born near Lake Telida and had spent his life in the area. Besides his wife, mother, and a young girl, Seseui was the only permanent resident at New Telida. Each summer the family lived at a fish camp near the mouth of a stream draining Lake Telida where they netted and trapped whitefish. In July or early August, the Seseui family would sometimes be joined by another family of three persons, who also fished. During the winter, the Seseui family resided at New Telida, which consisted of cabins, a steambath, caches, doghouses, a church building, and a cemetery. The archaeologists described Old Telida as a small winter village consisting of two cabins, a church building, fish racks, and a cemetery. They reported no structural remains at "1899 Telida." 21/

Anthropologist Edward H. Hosley spent two weeks with Carl Seseui at Telida during the summer of 1962. According to Hosley, New Telida was then occupied by three families. The Indians customarily spent the summer fishing with gill nets at Seseui's fish camp. A school was operated at the village from 1976 to 1979. 22/

BIG RIVER VILLAGE

Located on the Kuskokwim River opposite the mouth of Big River, this village was occupied, according to one anthropologist, as early as 1901. When George B. Gordon passed through the area in the summer of 1907, he found a small Indian camp at the mouth of the river, which the Indians called "Keklone." In early 1908, Walter L. Goodwin was guided by Chief Nikolai of Nikolai Village to "Nicholomas," which was then occupied by only one family, although there were Indians on several branches of Big River. In the following year, it was reported that the family of "Esi" occupied the village. 23/

From the early 1910's to about 1935, the village was occupied by the extended family of Esai. During these same years, a roadhouse and trading post was located near the village. The Esai family subsequently moved to Nikolai Village, but the noted anthropologist Wendell L. Oswalt writes that two or three Indian families continued to live year-round at the place until the early 1960's. 24/

SALMON RIVER VILLAGE

For many years a small band of Indians occupied a fish camp at the mouth of Salmon River. After a roadhouse was established near the camp in 1910, the Nick Pitka family evidently occupied the site throughout the year. Sometime in the 1920's, the Indian family moved to Old Nikolai. The census records of 1920 indicate a population of 17 Indians, or a total population of 20 people, on the Salmon River. Today, an Indian named Miska Diaphon maintains a fish camp near the mouth of the river. 25/

BIG CREEK VILLAGE

This small village was located on the upper Takotna River, near the mouth of Fourth of July Creek. First reported in 1908 by Alfred G. Maddren, the village was, according to oral tradition, abandoned following an epidemic in the early 1900's, some of the Indians moving to Vinasale, some to Telida, and others to villages on the middle and lower Kuskokwim River. The census records of 1920 indicate, however, a population of five Indians on the Takotna River, possibly at the village. Later, the family of Wasillia moved to some point on the Nixon Fork and remained there until all the adults died in the 1930's. 26/

SLOW FORK VILLAGE

The exact location of this village is presently unknown. According to local tradition as recorded by Hosley, a village on the Slow Fork was abandoned shortly after 1910, and the Evans family moved to Old Nikolai. However, there are records indicating that the village or one near it was occupied until the late 1920's. During the 1920's, travelers on the Nenana-McGrath trail noted the existence of a village and roadhouse on the Slow Fork, located about 76 miles from McGrath on the McGrath-Nikolai-Slow Fork trail. U.S. Geological Survey maps place the roadhouse and village northwest of Dennis Creek Village. However, one anthropologist states that the village was located in SW1/4, T. 26 S., R. 27 E., K.R.M. 27/

DENNIS CREEK VILLAGE

The exact location of this village is presently unknown. In 1899, Herron found a winter village consisting of a cache, and a graveyard a short distance beyond Lake Hoyle, near the confluence of Dennis Creek and Tonzona River. He later learned that the cabins belonged to the Telida Indians. According to Hosley, the family of "Old Man Dennis" moved from Tanana on the Yukon River to the East Fork of the Kuskokwim River about 1905 and established a small village on the Shisnana River. Inasmuch as the Slow Fork was known as the Shisnana River in the 1910's, it is likely that the Dennis family located their village near what anthropologists refer to as the Dennis Creek village. Hosley records that the Dennis family moved to Old Nikolai in 1918. In March 1919, however, Stephen Foster noted that an Indian named Dennis resided on the East Fork, about 84 miles from McGrath. The village was reportedly abandoned in 1937. 28/

McGRATH

Located on the left bank of Takotna River near its confluence with the Kuskokwim River, McGrath was founded during the height of the gold rush to the Innoko River in 1907 when two traders named Peter McGrath and Abraham Apple established separate stores at the place. 29/ McGrath, after whom the town was named, was a former deputy marshal at Nome; he was subsequently appointed the U.S. Commissioner for the Innoko district in which capacity he served for several years. He was succeeded by Wilbur F. Green, a dentist, who held the position for many years. "Abe" Apple, after whom Appel Mountain was probably named, remained in McGrath as a storekeeper as late as 1912, and probably later. 29/

Until the late 1910's, McGrath was a small settlement even by local standards. Trappers, hunters, and prospectors customarily gathered at the place during the holidays to celebrate and in the spring to trade. In 1908, one writer described the settlement as a rendezvous point for about 12 men who devoted most of their time to hunting and fishing. Visiting the place in the summer of 1910, Anton Eide found "a couple of small stores, a number of log cabins, a roadhouse and half a dozen inhabitants, although when [he] passed through there were some 20 or 30 campers there temporarily." 30/ In 1912, Lee R. Dice, a game warden, found only three or four cabins in the settlement, which he noted was sometimes called "Appel." 31/ Notwithstanding its size, McGrath was a thriving settlement during these years. About 1911, the Northern Commercial Company located a store at the place, and in the following year local residents attempted to obtain a school. In 1913, the settlement obtained a post office. While the town was primarily dominated by mercantile businesses, there was some effort to develop an agricultural industry. One of the more successful farmers, D. W. Sprague, had a 2.5-acre farm on the left bank of the Kuskokwim River, opposite the McGrath post office. His crop consisted mainly of potatoes, which he sold to the mining camps at a net profit of 10 cents a pound. In the summer of 1914, Sprague produced more than six tons of potatoes. 32/

With the development of dredge mining on Candle Creek and the upper Innoko River, and hard-rock mining on Nixon Fork, resulting in the shipment of large amounts of freight to the upper Kuskokwim River, McGrath soon became the major supplier of goods to local miners and prospectors. Large steamboats operating on the Kuskokwim River discharged freight at McGrath for shipment in small steamboats and launches to Takotna. Not long after the Alaska Wireless Telegraph Company established a radio station at McGrath in 1917, a telephone line was erected from McGrath to Candle Creek, where connection was made with the line of the Kuskokwim Dredging Company to Takotna. In 1921, a newspaper called The Kusko Times began publication at McGrath. Following the disastrous spring floods of 1921 and 1922, the Signal Corps decided in 1923 to remove the radio station to Takotna. The press of The Kusko Times was moved to Takotna at the same time. 33/

Following several damaging floods in the late 1930's, the town began to move to its present site in the winter of 1938-39. Four years were required before the move was completed. The bulk of the local population resided in the new town, although Old McGrath continued to be occupied by some people for many years, some as late as the 1960's. Writing in 1941, a local school teacher described the town as consisting of two roadhouses and three general stores, with a population of about 120 people, the majority being Natives. 34/

During the 1930's, the economy of McGrath lagged significantly with the gradual decline of mining in the area. During World War II, however, the military constructed facilities and roads in the area, thus offering plentiful employment opportunities to local residents and insuring McGrath's future as the transportation center in the upper Kuskokwim basin. In 1942 and 1943, the military constructed housing for 33 officers and 148 enlisted men, motor repair shops, and a hospital unit at a site about 0.25 miles from the townsite. Also, the Civil Aeronautics

Administration constructed a modern aviation field, consisting of two paved cross-runways, suitable for landings by heavy cargo transport airplanes. 35/

In later years, various government departments located offices in or near McGrath. In the early 1950's, the Air Force constructed a radar control site on Tatalina River. And in the early 1960's, the Bureau of Land Management established a field office for fire-fighting operations near the community. 36/

TAKOTNA

Also known as Berry Landing and Portage City in the late 1900's, Takotna was founded in the summer of 1908 by the Kuskokwim Commercial Company at the head of navigation for small steamboats and launches on the Takotna River. There freight was discharged, and taken to Ganes Creek and Ophir by packhorse. When, in early 1908, Walter L. Goodwin visited the place, he found "about a dozen new cabins and many caches." 37/ Several months later, the Kuskokwim Commercial Company established its primary store at Takotna, and proceeded to improve the trail to Ophir for sled travel. In the summer of 1910, D. H. Sleem, a surgeon with the Alaska Northern Railway, found 20 cabins, two roadhouses, and the store of the Kuskokwim Commercial Company at the place. Visiting "Tocotna City" about the same time, Anton Eide wrote that the settlement was located on a high bank on the north side of Takotna River. The settlement was the chief station of the Kuskokwim Commercial Company, and besides the company store consisted of two roadhouses, and "12 or 14 other substantial log houses." By 1919, the town boasted about 50 houses, including a postoffice, several roadhouses, and a Northern Commercial Company store. 38/

The fortunes of the settlement were linked to those of the mining camps in the Innoko district. During the 1910's and 1920's, the town enjoyed prosperity. In 1923, a radio station was established in the town, and the presses of The Kusko Times were moved from McGrath to Takotna at the same time. In 1921, the Alaska Road Commission established its district headquarters there, and subsequently improved the Takotna-Ophir road and constructed an aviation field near the settlement.

During the late 1920's, Takotna was seriously challenged by McGrath as the major supplier of the upper Innoko mining camps. Whenever the water in the Takotna River was low, steamboats were unable to reach the town. As a result, local residents appealed for the construction of a road from the settlement to deep water at the Forks or to the Kuskokwim River. In 1928, the Northern Commercial Company quit Takotna, selling most of its property there to F. C. H. Spencer. 39/ Ten years later, the Alaska Road Commission completed construction of the Sterling Landing-Takotna road, which became the principal route of travel to mining camps on the upper Innoko River.

FORKS

Located near the confluence of Nixon Fork and Takotna River, Forks was an intermediate point on the steamboat run between McGrath and Takotna. Large steamboats operating on the Kuskokwim River usually ascended the

Takotna River to Forks, where freight was then unloaded for shipment to Takotna in smaller boats during the summer or in sleds during the winter. Passing the place in the summer of 1910, Anton Eide found "large warehouses of the Kuskokwim Commercial Company, a store, roadhouse and dozen other cabins." Two years later, however, Lee R. Dice counted only six cabins at the place. For many years "Gasoline Nick" Nystrom lived at the place. Sometime in the late 1920's or early 1930's, the place was abandoned, and eventually the buildings were destroyed by a fire. 40/

BOERNER

In 1910, the Northern Commercial Company constructed a warehouse on the Takotna River, about two miles below Forks. The place was named after Clifford A. Boerner, the master of the steamboat Lavelle Young who with his wife and several assistants managed the post. The place was apparently abandoned a short while later. 41/

MEDFRA

Originally known as Berry's Landing, Medfra was a landing for steamboats hauling freight to and from the Nixon Fork mines. The settlement was linked to the mines by a wagon road. In the late 1910's, F. C. H. Spencer established a store at the place. Then, in the winter of 1920-21, Arthur W. Berry relocated his roadhouse business from Big River to the place, and subsequently acquired the business of Spencer. Berry remained at Medfra, operating a roadhouse, store, and mink farm until 1931. At that time, he sold his business to C. M. Winans, a miner with hydraulic mining interests on Hidden Creek, and announced plans to move to Homer, a small community on Turnagain Arm, where he planned to continue mink farming. After moving the store buildings and warehouses to higher ground, as the Kuskokwim River was rapidly cutting the banks away, Winans was to operate the business until his death. His wife Bertha continued to manage the business until 1964, when she sold the property to Jack Smith and retired to Fairbanks. Only one or two families presently reside at Medfra throughout the year. 42/

ROADHOUSES ON THE RAINY PASS TRAIL

In the winter of 1909-10, a number of roadhouses were constructed on what may be called the "old" Rainy Pass trail. This trail extended from Tatina River to Nikolai Village, thence to Takotna by way of Big River, McGrath, and Candle Creek, before continuing up the valley of Takotna River to Moore Creek. Nothing is known about the roadhouses called "Guggenheim" and "Snug" on the trail between Tatina River and Nikolai Village, other than they were located approximately 25 and 40 miles, respectively, from Nikolai. In the winter of 1910-11, the Alaska Road Commission relocated certain stretches of the trail, and roadhouses were constructed on the relocated trail. The "new" Rainy Pass trail extended from Tatina River to Farewell Mountain, thence directly to the mouth of Salmon River, before continuing to the Kuskokwim River opposite the mouth of Big River. From that point the trail went to the mouth of Crooked Creek, crossed the divide to Nixon Fork, which it followed generally to Boerner near the mouth of Nixon Fork. The trail then followed the Takotna River valley to Takotna and Moore Creek. Roadhouses on the "old" trail between Big River

and Tatina River were abandoned. The roadhouses described below were located on the "new" Rainy Pass trail.

Rohn River Roadhouse

Located near the mouth of Tatina River, this roadhouse was one of several roadhouses constructed along Tatina River in the fall of 1910. The first proprietor was named "Big John" O. Strand, who subsequently spent his summers prospecting on Otter Creek in the Iditarod district. In the winter of 1914-15, he joined C. Edward Cone in a prospecting venture on Hartman River. Evidently Strand had sold his roadhouse business, for it was reported that a Joe Vogler was the proprietor during the winter of 1913-14. 43/

In subsequent years, the roadhouse changed hands frequently. In 1917, the proprietors were the "Richards Brothers," and in 1920, Joe Blanchell, who was also the proprietor of Pioneer Roadhouse. In 1918 or 1921, Robert R. Jones and W. James Davidson assumed ownership of the roadhouse.

During the summer of 1923, Davidson and Jones performed contract work for the Alaska Road Commission, cutting the right-of-way and grading the trail in Dalzell Canyon. A few weeks later Jones left the area to establish a roadhouse on the East Fork of the Kuskokwim River. Davidson and Einar Carlson operated the roadhouse in the winter of 1923-24. In May 1924, the roadhouse was destroyed by fire. 44/

Both Davidson and Carlson remained in the vicinity of Tatina River as trappers. Davidson may have left the place in the late 1920's, the local newspaper last mentioning his name in 1928. Carlson remained until the late 1930's and possibly later. In 1937, he announced plans to abandon a cabin near the old Farewell Roadhouse, and to build a new one on Farewell Lake in the fall. One year later, M. C. Edmunds noted the existence of a trapper's cabin near the mouth of Tatina River. He stated that it was used by people in emergencies. The Civilian Conservation Corps later built a shelter cabin in the timber on the west end of the emergency aviation field near Tatina River. According to Margaret Mespelt, a long-time resident of McGrath, Carlson periodically used the Tatina River cabin until the late 1940's. 45/

Pioneer Roadhouse

Located about 19 miles from Rohn River Roadhouse, this roadhouse was constructed during the winter of 1910-11. The roadhouse was originally known as Farewell Mountain Roadhouse and later as French Joe's Roadhouse, after the builder and proprietor Joe Blanchell, a French-Canadian. One of the more popular of the roadhouse keepers on the trail, Blanchell was the first man to carry the mail across Rainy Pass in November 1914. He frequently advertised his roadhouse in the Iditarod, McGrath, and Takotna newspapers, offering mountain sheep, moose, and bear when in season to his clients and "dog bacon" and fish for the sled-dogs. About 1914, he renamed his establishment as "Pioneer Roadhouse," which Harry Brink, who purchased the business in 1923, continued to use. When the trail was abandoned as a mail route, the roadhouse was closed for business. Local trappers W. J. Davidson and Einar Carlson occupied the place during the

1920's, and Carlson alone during the 1930's. The old roadhouse site is presently occupied by four log buildings, about one mile southeast of Farewell Lake Lodge, a resort for hunters, photographers, and the like. 46/

Peluk Roadhouse

While encamped near Farewell Mountain in January 1911, Walter L. Goodwin wrote a letter to a friend in Iditarod describing the work of the Alaska Road Commission on the Rainy Pass trail from Salmon River to the mountain. He mentioned in passing that two men named Ben Anderson and "Billy-the-Horse" Elliott had followed his crew, selecting roadhouse sites and were at the time building roadhouses at Salmon River and Radiator Creek. The latter roadhouse, known as Radiator Creek Roadhouse, Peluck Creek Roadhouse, and finally Peluk Roadhouse, was located approximately 19 miles from Pioneer Roadhouse and 21 miles from Salmon River Roadhouse. 47/

During the winter of 1913-14, Joe I. Wills, who first entered the upper Kuskokwim basin in 1910, occupied the place apparently on a temporary basis, even though local newspapers reported the cabin to be vacant. Sometime after 1915, the roadhouse was taken over by Frank R. Cioli, who continued to remain at the place until 1928 or 1929. In 1928, Cioli solicited a contract from the Alaska Road Commission, proposing to grade the winter trail for 1.5 miles on both sides of Sullivan Creek. Joe I. Wills may have returned to the place in the mid-1930's, and used the former roadhouse as his headquarters for trapping. The roadhouse buildings were destroyed in a forest fire in August 1976. 48/

Sullivan Creek Roadhouse

Located approximately nine miles from Peluk Roadhouse and 12 miles from Salmon River Roadhouse, this roadhouse was constructed sometime during the winter of 1910-11, probably by "Billy-the-Horse" Elliott and Ben Anderson. Anderson was the proprietor in the winter of 1913-14. The roadhouse was subsequently abandoned, probably due to lack of business. Travelers on the trail were able to reach Peluk or Salmon River in a day's time. The former roadhouse was used sometimes by prospectors and trappers. In November 1914, for example, John O. Strand and C. Edward Cone established their headquarters at the mouth of Sullivan Creek, a tributary of Pitka Fork. They had a two-year outfit, and planned to go to Hartman River to prospect in February or March. 49/

Bear Creek Roadhouse

Little is known about this roadhouse. According to Miska Diaphon of Nikolai, the roadhouse was operated in the years 1914 to 1916, when it closed due to poor business. The placename appears on Alaska Road Commission maps dated 1913 and 1916. 50/

Salmon River Roadhouse

Constructed in the winter of 1910-11, this roadhouse was located near the mouth of Salmon River, approximately 17 miles from Berry's Roadhouse and 20 miles from Peluk Roadhouse. Percy Bodey and a certain Ainge were the proprietors in the winter of 1911-12. One or two years later, Frank Fox, popularly known as "the Turk," took over the business in partnership with "White Dog" Smith, who operated a roadhouse at Takotna. In the fall of 1914, Fox and William E. Geiger, a steamboat captain associated with the Northern Commercial Company, constructed a trail from Salmon River to McGrath, thereby putting the latter town on line with the principal winter route of travel in the basin. 51/

Fox is known to have operated the roadhouse as late as 1919. Thereafter the place changed ownership frequently. A Charlie White may have occupied the place in the mid-1920's, and Peter Snow's name was mentioned in connection with the place in 1921 and again in 1935. The roadhouse buildings were destroyed in a fire in 1977. 52/

Big River Roadhouse

About 1908 a small trading post called "Kempton" was constructed on the Kuskokwim River, opposite the mouth of Big River. Two years later it was reported that "Berry's Post," presumably named after Arthur Berry, was located near the mouth of Big River. Beginning in the winter of 1910-11, the post was a popular stop for travelers bound to Seward or Hartman River via Nikolai Village, located about 30 miles by trail from the post. With the construction of the Farewell Mountain-Salmon River trail, and the subsequent adoption of the trail as a mail route, the post became an important stop for travelers, and a postoffice was actually operated there in 1917-18. A roadhouse was constructed at the place, probably by Berry, who hired someone to oversee the roadhouse business while he remained in charge of the trading post. The roadhouse was reportedly operated by a Sherwood in 1917. It was located about 17.5 miles from the Salmon River Roadhouse. 53/

In the winter of 1920-21, Berry moved to Medfra and established a roadhouse and trading post there. The Big River roadhouse was sold to "Diamond Dick" Rhodes; and the trading post, to Louis Gorman. During the remainder of the 1920's, the roadhouse was an important stop on the Nenana-McGrath trail. In 1923, it was reported that the roadhouse was 24.7 miles by trail from McGrath and 21.3 miles by trail from Nikolai. One traveler reported that it took only 5.5 hours to drive from Medfra to the roadhouse, and less than a day from the roadhouse to Nikolai. The roadhouse could accommodate as many as 11 people for the night. In 1928, the roadhouse was reported to be 18.5 miles by trail from Medfra, or 22 miles from McGrath. 54/

In 1927 Rhodes sold the roadhouse to Joe Condry. Three years later, he took over the East Fork Roadhouse on the Nenana-McGrath trail. Condry and his wife operated the roadhouse and trading post as late as 1935. 55/

Grayling Creek Roadhouse

Located on the Kuskokwim River near the mouth of Grayling Creek, approximately 10 miles from Berry's Roadhouse and 13 miles from Boerner, this roadhouse was owned and operated by Sam Nesvoog in the early 1920's. The census records of 1920 indicate a population of three white people and five Indians at the place. Precisely when the roadhouse was founded is presently unknown. Local newspapers indicate the existence of a cabin near the creek as early as 1911. 56/

Big Creek Roadhouse

In the summer of 1908, the Kuskokwim Commercial Company established two stores on the Takotna River. Once the store at Takotna was established, Arthur Berry, Archie Higgins, Louis Blackburn, and John Felder ascended Takotna River in two poling boats, each loaded with three tons of merchandise, to a point near the mouth of Big Creek or Portage Creek, where they established a second store. Known as "Joaquin" in 1908 and "Berry's Station" in 1909, the store served prospectors and miners in the vicinity of Moore City, a mining camp on Ganes Creek. A trail, about 12.5 miles in distance, led from the store to the mining camp. 57/

Sometime in the winter of 1910-11, the trading post became "Whalen's Roadhouse" or the "Big Creek Roadhouse." It was located about 14 miles by trail from Takotna or 36 miles from Moore Creek. In 1914, the proprietor was Benjamin Newman, the chief of the steamboat Quickstep; he advertised the roadhouse in the local newspapers, offering dog kennels, horse barns, and fish for dogs. Evidently the roadhouse was operated until 1915 when travel on the Takotna-Iditarod trail practically ceased. In 1916, Archie Higgins was in the section, attempting to construct a wagon road up Big Creek to Ganes Creek for the Kuskokwim Dredging Company. 58/

Murray and Legin's Roadhouse

Located about 12 miles from Whalen's Roadhouse at the mouth of Big Creek, or 23.5 miles from Moore Creek, this roadhouse was established sometime in the winter of 1910-11. The roadhouse may have been renamed the "Halfway Roadhouse" in the winter of 1913-14. Operated by two men named Smith and Snow, the Halfway Roadhouse was reportedly located about 22 miles from Moore Creek. 59/

Stanford's Roadhouse

Established in the winter of 1910-11, this roadhouse was located about 18 miles from Moore Creek. The first proprietor may have been a Mrs. Stanford, who in 1913-14 operated the Moore Creek Roadhouse. In the same winter, there was a "Lincoln Creek Roadhouse" on the trail at the approximate location of Stanford's Roadhouse. The Lincoln Creek Roadhouse was operated by a Jack Lovell. 60/

Mrs. Perry's Roadhouse

First reported in March 1911, this roadhouse was located about 1.63 miles from Moore Creek. Considering the fact that local newspapers failed to include the roadhouse in tables of distances on the trail, it is likely that the roadhouse ceased business in 1911 due to its propinquity with the Moore Creek camp. 61/

Moore Creek Roadhouse

Also known as the Moore Creek Inn, this roadhouse was located less than 50 miles by trail from Iditarod and Takotna. A Japanese named Joe was the proprietor in 1910. Mrs. Stanford was the proprietor in 1914. 62/

ROADHOUSES ON THE NENANA-McGRATH TRAIL

Lone Star Roadhouse

This roadhouse was located approximately 34 miles from the Lake Minchumina Roadhouse or 18 miles from the New Telida Roadhouse. It was established in the fall of 1923, the mail carrier Fred Milligan first noting the roadhouse in November 1923. In 1926, Lars Nelson was reportedly the proprietor. In April 1930, a local newspaper announced the arrival of a Herman Olson at Takotna from the roadhouse. Two months later, the same newspaper announced the arrival of Matt Bellin and three women from the place. According to one traveler, the roadhouse was a five-hour drive from Telida. 63/

New Telida Roadhouse

Located approximately 16 miles from the Slow Fork Roadhouse, or 0.5 mile southeast of the village of New Telida, this roadhouse was opened for business in the winter of 1922-23. According to E. Coke Hill, the mail contractor, the roadhouse was operated by Indians. He said that the roadhouse was "kept very clean and the meals are better than in many roadhouses run by whites." The rates were \$1.50 per meal. 64/ In April 1923, one traveler reported that Sergio and old Wassalei's daughter operated a two-cabin roadhouse at New Telida. It was about a day's drive from the East Fork Roadhouse. 65/

Tent Roadhouse

In the winter of 1923-24, two unidentified white men operated a roadhouse business in a tent at a place about 10 miles from New Telida or six miles from Slow Fork. They planned to construct a frame structure at the place, but failed to do so. The roadhouse was abandoned, doubtless due to lack of business. 66/

Slow Fork Roadhouse

This roadhouse was located approximately 16 miles from New Telida and 20 miles from the East Fork Roadhouse. According to one traveler, it was a "fairly good roadhouse" operated by an Indian. Elizabeth F. Andrews, an anthropologist, reports that the roadhouse was located near Slow Fork

village in SW1/4, T. 26 S., R. 27 E., K.R.M. The roadhouse and village was relocated a short distance when the original site was inundated by floodwaters. The roadhouse was operated by Ilufa Ivon, whose widow resided at Nikolai in 1977. 67/

East Fork Roadhouse

The East Fork Roadhouse was located approximately 22 miles from the Slow Fork Roadhouse, 10 miles from Nikolai Roadhouse, and 21.5 miles from Medfra. During the winter of 1922-23, travelers reported only a cabin at the site. In the summer of 1923, however, Robert R. Jones and Carl Forsberg constructed a roadhouse at the place. Forsberg died at the roadhouse in April 1925, and was buried nearby. In November 1928, an Indian found Jones dead at the place. It is not known at present whether he too was buried nearby. The roadhouse was subsequently taken over by Joe Oates, who in 1930 sold the property to "Diamond Dick" Rhodes. Rhodes operated the roadhouse and trading post in the winter of 1930-31, closing it in June 1931 for the summer. According to Andrews, the roadhouse and cabin were destroyed by fire. 68/

Nikolai Roadhouse

During the winters of 1909-10 and 1910-11, Nikolai Village was an important stop for travelers on the Rainy Pass trail. A roadhouse was located near the village; it may have been operated by George VanPelt, who is known to have had a trading post in the village from 1914 to 1919, and possibly later. The location of the roadhouse was reported by various travelers to be 20 miles, 30 miles, and 35 miles from the Big River Roadhouse. 69/ The roadhouse probably ceased operation when the Rainy Pass trail was relocated in the winter of 1910-11.

In 1922, Nikolai again became an important station for travelers, this time on the Nenana-McGrath trail. An Indian opened a roadhouse with dog kennels for business. The roadhouse was located about 21 miles by trail from the Big River Roadhouse and 10 miles from the East Fork cabin. The place was operated as late as 1926. 70/

VI. WATER TRANSPORT

Before the gold rushes to the Innoko and Iditarod districts in the late 1900's, steamboat traffic on the Kuskokwim River was limited to the lower stretches of the river. Beginning in the 1880's, steamboats were used to transport supplies to various missions near Bethel. While there are isolated cases of prospecting parties ascending the river in steamboats as far as Kolmakov in the 1880's and 1890's, it was not until the early 1900's that a steamboat entered the upper Kuskokwim basin. In the fall of 1901, a party of traders reportedly ascended the river in a small steamboat to the junction of the North and South Forks, and possibly up the South Fork for some unknown distance. This may have been the first steamboat to traverse the entire length of the river. 1/

The gold rushes to Ganes and Ophir Creeks in 1907 and 1908 led to the establishment of steamboat service, albeit irregular, on the Kuskokwim River. Many people left Nome in steamboats, and ascended the Kuskokwim and Takotna River to the portages to the Innoko River. In the summer of 1906, Captain John J. Healy organized the Central Alaska Company, and transferred the large steamboat Nunivak from the Yukon River to the Kuskokwim River. The steamboat was operated on the river for one season only before it was returned to the Yukon River. More successful was the Kuskokwim Trading and Transportation Company of Nome, which was incorporated in 1908; and a small firm organized about 1901 by B. G. Tognazzi of the Golden State Products Company of San Francisco. Managed by Frank Joaquin, this company established its headquarters at Bethel, and engaged primarily in the fur trade business.

In the late 1900's, however, the company entered the business of transporting prospectors and miners to the upper Kuskokwim basin, located a chain of trading posts at strategic points in the basin, and invested heavily in several mines in the Innoko district. As the powerful Northern Navigation Company prepared to move to the Kuskokwim River in 1910, the company was incorporated in 1909 as the Kuskokwim Commercial Company with Frank Joaquin as president. 2/

It is not presently known how many steamboats ascended the Kuskokwim River to McGrath and Takotna in 1907. According to Tom Odale, who rushed to the strikes via Rainy Pass in the winter of 1906-07, the Hattie B. made at least one trip to McGrath with W. A. Vinal, the recently appointed U.S. Commissioner, on board. When the Gordon brothers reached Bethel in late 1907, they found two sternwheel steamboats there. At least one had been brought from the Yukon River earlier in the spring; and the other was brought in as a rival to the first. George B. Gordon noted that the gold rush had proved abortive, and so the steamboats lay all summer at Bethel and were soon to return to the Yukon River. Gordon did not name the boats, but one could have been the Hattie B. For it was on this boat that the Gordon brothers took passage from Bethel to Nome. Gordon wrote that the boat was owned by a Norwegian named Houltberg. 3/

In the second rush to the upper Innoko River in the summer of 1908, a number of steamboats again ascended the Kuskokwim River. The Kuskokwim Commercial Company, planning to establish several trading posts on the Takotna River, had several hundred tons of freight delivered from San Francisco to Bethel on a large ocean steamer. The company then transported about 40 tons, perhaps on the Hattie B. or the Star, to Takotna River, thence up that river on the Star to Takotna. According to Alfred G. Maddren of the Geological Survey, one party ascended the Kuskokwim River in the fall of 1908 with an auxiliary gasoline steamboat of about 15 tons burden, with a draft of four feet, to a point on the Takotna River, 30 miles above its mouth, without any difficulty. 4/

Analyzing the relative merits of the various routes to the Innoko district, Maddren concluded that the Kuskokwim River was destined to be the primary route. Heretofore, most travelers and freight went into the Innoko district by way of several land and water routes from the Yukon River. The Kuskokwim River had not yet been used extensively as a route for the transportation of supplies primarily because the basin had not been prospected or developed, and because the mouth of the river had not yet been charted, presenting a hazard to ocean vessels bound to Bethel. It was known that vessels with a draft of 12 feet could and did ascend the river to Bethel. Once developments in the basin warranted regular steamboat service, and if the mouth of the Kuskokwim River was charted and marked, freight may be landed at Bethel by ocean vessels, and then shipped upriver by steamboats to the lower Takotna River. The freight could then be transported by road or railroad to the Innoko district at any time of the year. Compared to the other routes, the Kuskokwim River was closer to the Pacific coast ports, required fewer transfers of freight, and thus offered the possibility of lower rates for the transportation of freight from Seattle to the Innoko district. Summing up, Maddren wrote: "There appears to be no question that the Kuskokwim route to the Innoko placer camps affords the most expeditious and satisfactory solution of the transportation problem, that even under present conditions there is no reason why supplies from Seattle may not be delivered at Ophir for \$100 dollars a ton, and that with good management the actual freight cost over this route may be reduced considerably below that figure." 5/

Subsequent events were to bear out Maddren's predictions. Dredges were introduced on the Tuluksak River, Candle Creek, and in the Innoko district. Hard-rock mining began on Nixon Fork in the late 1910's, and continued on a small-scale basis until the 1960's. And several hundred miners worked the tributaries of the Kuskokwim River for placer gold. All of these developments provided tonnage for the navigation companies. In the early 1910's, the U.S. Coast and Geodetic Survey charted the Kuskokwim Bay and channels, and eventually located a suitable channel into the Kuskokwim River suitable for ocean vessels. In addition, H. A. Cotten of the U.S. Coast and Geodetic Survey used the steamboat Quickstep to chart the Kuskokwim River as far as McGrath in the summer of 1915. 6/

Until 1910 the Kuskokwim River trade was dominated by the Kuskokwim Commercial Company. In that year, at the height of the Iditarod gold rush, the Northern Commercial Company entered the field with stores at

Takotna and Georgetown, while its subsidiary, the Northern Navigation Company, placed the steamboat Lavelle Young on the river. In 1911, the company closed its stores on Susitna River and Cook Inlet, and transferred the steamboat Alice and two barges to the Kuskokwim River. The Lavelle Young was operated during the summer of 1911, but was subsequently taken out of commission as it was too large and expensive to operate for the current trade. The steamboat was later converted into a cold-storage barge, which sank at its moorings near Bethel on June 10, 1930. The Alice was operated on the Kuskokwim River until 1914. 7/

Nineteen-eleven was the peak year in the Kuskokwim River trade, about 2,500 tons being transported by the navigation companies and various individual operators. Thereafter, tonnage began to decline, with only about 500 tons being transported to McGrath in 1914. In the spring of 1914, the Northern Commercial Company abandoned its stores at Georgetown and Kalmakov, and transferred the stock to its station at Takotna. At this time, steamboats and launches seldom made more than three or four round trips each season on the Bethel - McGrath run. In 1915, the Quickstep, which at that time was the only steamboat on the Kuskokwim River, made only two trips from Bethel to McGrath. 8/

As miners prepared to introduce dredges in the Innoko district and on Candle Creek, Wallace C. Langley and his brother Horace transferred in June 1916 the steamboat Tana and the barge Delta from the Iditarod River to the Kuskokwim River. Both the Tana and the Quickstep, which appear to have been purchased by the Langley firm, were engaged in the transportation of dredge material and crude oil to the upper Kuskokwim area in the late 1910's. 9/

Sometime in the 1910's, the Alaska Rivers Navigation Company was organized with Captain Wallace C. Langley as manager at McGrath. The Quickstep, the Tana, and at least two barges were transferred to the company. Captain Langley was in charge of the Tana; while Captain George A. Green operated the Quickstep. The company also owned the steamboat Argonaut. Placed on the Bethel - McGrath run in 1923, the boat was originally owned by Charles Nicollet. The boat, powered by a Diesel engine, was 130 feet long with a 26-foot beam; it was capable of handling 110 tons, and pushing a barge with 25 tons. The Alaska Rivers Navigation Company purchased the Argonaut in 1925, and Nicollet became a stockholder in the company. 10/

Upriver tonnage in the 1920's and the 1930's consisted primarily of dredge material, fuel, and foodstuffs. Downriver tonnage consisted of ore from the Nixon Fork mines. According to one report in 1933, the Tana made two trips each season from Bethel to McGrath, from which point supplies were taken to Takotna and Medfra by launch. Transportation rates from Seattle to McGrath were \$75 a ton; from McGrath to Takotna, about \$25 a ton. 11/

In 1936, the company replaced the Tana with the Wallace Langley, a wood-burning steamboat constructed at Bethel. Capable of handling 600

tons of freight, the Wallace Langley was the largest steamboat on the Kuskokwim River during the late 1930's, and was the chief contact of the S.S. Tupper at Bethel. In 1941, freight rates on the Bethel-McGrath run were \$30 per ton upriver and \$15 per ton downriver. 12/

During the 1940's and 1950's, tonnage transported on the Kuskokwim River increased spectacularly as military facilities were constructed in the upper Kuskokwim basin. Three motor tugs named the Peyaka, the Chelan, and the Hella were used on the river. About 12,000 tons of freight were transported on the river. About 2,000 tons were transported to McGrath and vicinity. Downriver shipments consisted primarily of timber. 13/

In the early 1960's, the upper Kuskokwim basin was served by the Alaska Rivers Navigation Company, the McGrath and Kuskokwim Freight Service, and the Alaska Puget United Transportation Company. On the average, about 5,000 tons of bulk material, non-perishable goods and petroleum products were shipped upriver each season. Sterling Landing received about 2,400 tons; McGrath, 2,500 tons; and Nikolai Village, 100 tons. 14/

TAKOTNA RIVER

During the gold rushes to Ganes Creek and Ophir Creek in 1907 and 1908, many people from Nome and on the Kuskokwim River ascended the Takotna River in boats to points 12 to 20 miles from Ganes Creek, where they found portages to the upper Innoko River. Some prospectors took advantage of the rush to earn money by transporting passengers and supplies to Takotna. Tom Odale, for example, purchased provisions at McGrath and necked his 26-foot boat up the river to Takotna, then known as Berry's Landing. After prospecting awhile on Spruce Creek, Odale returned to the Takotna River by way of Yankee Creek. He then earned money from a storekeeper from Nome who had about 3,500 pounds of goods by freighting supplies up the river to Berry's Landing at a charge of six cents per pound. Later, he returned to McGrath, purchased a winter outfit of 5,000 pounds, and ascended the Takotna River and Nixon Fork, where he intended to prospect during the winter. 15/

As one strike after another occurred on the upper Innoko River and on the tributaries of Takotna River, the firm locally known as Joaquin, Twitchell and Fowler, moved into the field to take advantage of the shortage of supplies in the district. In the spring of 1908, the company received several hundred tons of supplies from San Francisco. The goods were landed at Bethel, and in the summer transported to McGrath. The company then hired Arthur Berry to take the supplies up the Takotna River in his sternwheel steamboat, the Star. Berry hauled about 40 tons of freight to Takotna, where a store was built to supply miners on Yankee Creek. In order to supply miners on upper Ganes Creek, the company decided to establish another store near the mouth of Big Creek. So Arthur Berry, Archie Higgins, Louis Blackburn, and John W. Felder ascended the river in two poling boats, each loaded with three tons of goods. They landed near the mouth of Big Creek, and there constructed a log cabin store. 16/

When in the summer of 1908, Alfred G. Maddren of the Geological Survey visited the district, he early recognized the importance of the Takotna River as a water route to the Innoko district. Noting the fact that Joaquin, Twitchell and Fowler had already established trading posts on the portages to the Innoko River, Maddren predicted that the Takotna - Ophir trail would prove to be the superior route, inasmuch as it was more accessible to steamboats. An auxiliary gasoline schooner with a draft of four feet had ascended the Takotna River a distance of 30 miles without any difficulty, and boats with a draft of two feet had ascended the river as far as Takotna. If the navigation companies desired to reduce the number of times that freight must be transferred, and thus lower transportation rates, Maddren recommended the construction of a road from a point near the mouth of Nixon Fork to Takotna and Ganes Creek. Boats operating on the Kuskokwim River could then discharge freight at the terminus of the road, and teamsters would be able to haul the freight to the diggings in summer and winter. 17/

The Kuskokwim Commercial Company adopted Maddren's recommendations in part. In the fall of 1909, the company constructed a sled road from Nixon Fork to Takotna, thence to Ganes Creek. Whenever water in the Takotna River was low, steamboats landed freight at the Forks for shipment overland to Takotna. If the water was sufficiently deep, the navigation companies used small steamboats and launches to haul freight from the Forks to Takotna.

Anton Eide of the Alaska Road Commission visited the area in the summer of 1910, and provided the best description of the methods of water transport on the Takotna River. Arriving at Bethel on July 7 on the ocean steamer A. G. Lindsey, Eide boarded the steamboat Quickstep for the journey to McGrath. Owned by the Kuskokwim Commercial Company, the Quickstep was 126 feet long, with a beam of 20 feet and a draft of four feet. In this particular case, the boat was hauling 150 tons of merchandise for the company's post at Takotna.

Although not operated at full capacity, the Quickstep required seven days to reach McGrath. The steamboat then ascended the Takotna River to the Forks, where it arrived early in the morning of July 23. Here, Eide wrote, was the transfer point from large steamboats to small ones. Boarding the Hattie B., a 15-ton sternwheel steamboat with a draft of 18 inches, Eide continued up the Takotna River as far as Victoria Bar, a distance of about 12 miles. Eide observed that the river began to get shallow at a point about 8 or 10 miles above the Forks. At the bar, freight was transferred from the steamboat to two scows, which coupled together were towed by a horse the remaining 23 miles to Takotna. According to Eide, this was the ordinary method of water transport to Takotna, although in periods of high water steamboats drawing 18 or 20 inches of water ascended the river to the portage.

Eide himself did not board the scows for the trip to Takotna. Having brought a Peterborough canoe, he pulled and poled the canoe to Takotna, arriving there on July 25. The trip was made with little difficulty, as

the river had a hard gravel bottom which made it a "good poling stream." Upon reaching Takotna, Eide learned that poling boats could be taken an additional 125 miles to Moore Creek, but that the trip was "rather difficult on account of riffles and shallows." Since his mission was to investigate trail routes to Iditarod and Otter, Eide continued his journey overland, following the high ridges from Ophir to Iditarod. 18/

This method of water transport on Takotna River continued to be used until the late 1930's. The large steamboats of the Kuskokwim Commercial Company, Northern Navigation Company, and later the Alaska Rivers Navigation Company ascended the river as far as Nixon Fork, where freight was transferred to small steamboats and launches, or to horse-drawn scows for shipment upriver to Takotna. If the steamboats arrived too late in the season, the freight was landed at Nixon Fork and then sledged to Takotna in the winter. The Quickstep, the Lavelle Young, and the Tana were among the largest steamboats engaged in the Bethel - Nixon Fork run in the 1910's, 1920's, and 1930's.

As the navigation companies relied upon small steamboats on the Nixon Fork - Takotna run, and as the volume of freight increased dramatically with the introduction of dredges in the Innoko mining district, an important transportation industry developed in the upper Kuskokwim basin. Local residents constructed small steamboats and launches for use in the transportation of passengers and freight from McGrath or Nixon Fork to Takotna. Boats used on this run included: E. W. Miller's Alaskan, Shamrock, and Whipporwill; Robert Lourie's Pioneer and Annabelle; Frank Larson's Sea Wolf No. 2; Charles Nicollet's Spud and Argonaut; and others. E. W. Miller's boats were used on the Takotna River as late as 1937. 19/

Many of these steamboats and launches were constructed especially for shallow water navigation. Not infrequently, freighters on the Takotna River found the water too shallow to navigate. In 1921, for example, The Kusko-Times reported that freighters were having serious difficulty on the Nixon Fork - Takotna run owing to the low water. All freight was being landed at the mouth of Charlie Wood's slough, about 2.5 miles below Takotna. A contract was let to clear the slough of snags, with the belief that gasoline-powered boats could reach Takotna by that route. 20/ Apparently the project was unsuccessful, for in 1923 or 1924, the Alaska Road Commission constructed a 1.5-mile wagon road from Takotna to a steamboat landing place at low water stages. The landing was located about four river miles below Takotna. 21/

The problems of shallow water navigation led to the construction of various novel crafts. Robert Lourie's boat, the Pioneer, was completed in the summer of 1921; it was designed especially to haul freight between McGrath and Takotna. In 1925, he constructed the Annabelle, which was 64 feet long, 14 feet wide at the bottom with an 18-foot beam. 22/ In 1922, Charles Nicollet constructed the stern-sidewheeler Spud, which was designed to overcome the difficulty of low water navigation. Powered by

a Ford engine, the boat was equipped with an adjustable device reaching through the bottom of the boat which was used to shove the craft over shallow places. 23/

The small boats on the Nixon Fork - Takotna run could not handle the volume of freight destined for the Innoko district, and at times of extreme low water were forced to suspend operations. Beginning in the mid-1920's, some people in the Kuskokwim basin began agitating for the construction of a road from Takotna to deep water at the mouth of Nixon Fork. With each season of low water, the need for the Takotna - Nixon Fork road was voiced. Petitions calling for the construction of the road were sent to the Alaska Road Commission in 1929, 1933, and 1936. The season of 1933 was particularly hard for the district, some people being forced to transport foodstuffs in airplanes from McGrath to Takotna at a cost of \$60 to \$80 a ton.

In 1937, the Alaska Road Commission began constructing a road from Takotna to the mouth of Nixon Fork. Construction materials were hauled by boat from McGrath to the mouth of Shorty Creek. In September, the M.S. Sea Wolf in command of Frank Lange and Charlie Smith, arrived with 25 tons of mixed cargo, most of it being bridge material for the Alaska Road Commission.

In 1938, however, the Commission abandoned the proposed Takotna - Nixon Fork road project, and began construction of a road from Takotna to the Kuskokwim River via Candle Creek. Completed in the same year, this road became the primary route to the Innoko district for the transportation of heavy freight. As a result, freight boat traffic on the Takotna River declined dramatically. While some operators continued service on the Takotna River, they could not compete against the shorter and more reliable land route, and thus were eventually forced to suspend operations.

Boat traffic on the Takotna River above Takotna was limited to poling boats and canoes. As noted before, one firm transported about three tons of goods in poling boats in 1908 to found a store near the mouth of Big Creek. Following the construction of the Takotna - Iditarod winter trail in 1911, the store became a roadhouse, serving miners on Moore Creek and Fourth of July Creek, as well as travellers on the winter trail. In 1910, Anton Eide noted that it was possible to take poling boats upriver to Big Creek. Visiting Iditarod in August 1911, in order to purchase supplies, Aaron Longnecker, a miner on Moore Creek, reported that it was difficult to transport supplies to Moore Creek owing to low stages of water, that even poling boats were unable to reach the diggings. He predicted that miners on Moore Creek would in the future obtain all their supplies from Iditarod by way of the winter trail. 24/

Subsequent events were to prove Longnecker correct. All supplies for the Moore Creek diggings came from Iditarod or Flat. As a result, boat traffic virtually ceased on the upper Takotna River. In the mid-1910's the Kuskokwim Commercial Company undertook the construction of a wagon

road from Big Creek to Ganes Creek, with plans to transport a dredge to the Innoko district. In this connection, it was reported that launches were able to haul considerable loads up the Takotna River to Big Creek. The freight was then transported by wagon to Ganes Creek. 25/

In later years, hunters and trappers frequently ascended the upper Takotna River in small boats. According to Allan Anderson, who was born at Takotna, Deacon Deaphon used to transport supplies to trappers located above Joaquin, just below the Waldren Forks, until the late 1960's. He used small boats and barges about 20 feet in length and 8 feet in width. Another resident of McGrath, Mike Harrington, stated that Deaphon used to ascend the river during the 1930's and 1940's in a riverboat with an inboard engine loaded with trapping supplies.

In the summer of 1979, Diane Cudgel-Holmes of the State of Alaska Division of Research and Development interviewed numerous people at McGrath for information about boat traffic on the upper Takotna River and tributaries. Several individuals, most of them trappers and hunters, stated that they had ascended the river and one or more of its tributaries in recent years. Allan Anderson stated that he had ascended the upper Takotna River many times in the spring. In addition, he has ascended Little Waldren Fork and Big Waldren Fork. In going up Little Waldren Fork, Anderson reached a point just below the mouth of Moore Creek in the northwest part of T. 28 N., R. 41 W., S.M. He has ascended Big Waldren Fork three or four times in the spring when the water was high. Using an 18-foot riverboat with a propeller unit, he was able to reach the northwest corner of Section 8, T. 28 N., R. 29 W., S.M.

Ralph Anderson, a 40-year resident of McGrath, stated that he has ascended the Takotna River as far as the mouth of Fourth of July Creek. Beyond that point, he said, the water is "tricky." However, Mike Harrington, a trapper, stated that the water is shallow in places near the mouth of Fourth of July Creek, but beyond that stretch the water is deeper. Harrington evidently used a 17-foot canoe with a four-horsepower motor to ascend the river. He stated that he has ascended Moore Creek, Big Waldren Fork, and Little Waldren Fork in the canoe. He stated too that the late Vic Hooper ascended the river to the mouth of Little Waldren Fork many times in an 18-foot boat. In 1974, Hooper ascended the creek five or six times with loads of supplies and building materials.

Another long-time resident of McGrath, Frank Miller has traveled frequently on the upper Takotna River in connection with trapping, hunting, and fishing. He has used a 24-foot riverboat with jet units to ascend the river to Waldren Fork. He then used canoes on the tributaries, namely Big Creek, Fourth of July Creek, Minnie Creek, and Moore Creek. According to Miller, he has taken a canoe up Big Creek as far as the west border of Section 16, T. 33 N., R. 38 W., S.M.; and up Minnie Creek to a cabin in the southeast corner of T. 30 N., R. 40 W., S.M. He stated as well that Pete Snow had ascended Minnie Creek to the cabin, and that people may take canoes up Moore Creek and Big Waldren Fork. As a matter of fact, people may ascend Moore Creek as far as the former mining camp at high water with a canoe and motor.

Both Jim Pierson and Pete Shephard of McGrath have also ascended the upper Takotna River. Pierson ascended the river in a 19-foot boat with jet units on fishing and camping trips to points above the mouth of Fourth of July Creek. In 1978, he said, the river was too shallow for his motor-powered boat somewhere above Fourth of July Creek; he was then taking supplies to a trapper's cabin. Shephard, a biologist employed by the State of Alaska, has frequently ascended Takotna River to the mouth of Little Waldren Fork or Moore Creek in past years while counting beaver and moose. He used a 20-foot riverboat with jet units. 26/

Nixon Fork

In the late 1900's, gold was discovered in the headwaters of Nixon Fork, resulting in several small stampedes to the area. Most of the prospectors reached the diggings by boat. According to one report, the river was navigable for poling boats for a considerable distance. 27/ In the summer of 1907, Tom Odale was at McGrath when he learned from an old Indian of a strike on Nixon Fork. Odale and three companions rushed to the river in a 26-foot scow-shaped boat with 5,000 pounds of extra supplies. Ascending Nixon Fork to a place where there was a good stand of spruce timber, the prospectors landed their supplies, built a log cabin, as well as a light 22-foot riverboat with which to prospect the headwaters. Odale and Jim Wood took the boat to the foothills at least once, in this case to pick berries. With the onset of winter, they sold their supplies and cabin to a trapper and returned to McGrath on the riverboat and scow. 28/

Apparently, traffic was possible as far as the West Fork. In the early 1930's, Dick McArthur recalled that he had accompanied a party about 1908 in poling boats up the Nixon Fork, prospecting along the way. They eventually wandered to the West Fork, which they named, and prospected that stream. 29/ In the spring of 1910, there was a stampede to the Nixon Fork about 125 miles above its mouth, and several hundred claims were staked. Some of the stampeders must have used boats to reach the diggings for some were reported to have descended the river in the spring, a trip that was not without its dangers. Writing from the Forks to a friend in Iditarod in June 1911, Bob Stout, who spent the winter of 1910-11 on Nixon Fork, stated that a Charles Hull nearly lost his life in the headwaters of Nixon Fork. He was descending the high river when he ran under a shelf of ice, causing him to lose his boat and a hand drill outfit. Bill West and George Walters also capsized their boat on the upper reaches of the river. They decided to go to the West Fork and prospect. 30/

In the late 1910's, prospectors discovered several gold lodes on Hidden Creek, Mystery Creek, and others in the headwaters of Nixon Fork. The lodes were subsequently developed by Thomas P. Aitken and the Alaska Treadwell Gold Mining Company, and a road was constructed from the mines directly to Medfra on the Kuskokwim River. All freight for the Nixon Fork mines was hauled over this road.

While most prospectors and miners usually took the road to the headwaters of Nixon Fork, some continued to use the Nixon Fork in boats. Hunters, trappers, and loggers also used the river. In May 1925, Frank Larson ascended Nixon Fork with the Sea Wolf No. 2, with Phil Wilson and Evoy Lechnecht on board. Wilson and Lechnecht were bound for the head of Nixon Fork where they intended to log 100,000 feet of timber for the Innoko Lumber Company. It is not known whether they reached their destination, for tragedy struck the party when Wilson, who was hunting ducks, drowned. His canoe had overturned on the river about 55 miles above its mouth. 31/ In May 1928, another drowning occurred on the river. An Indian named Wasilla ascended the river to retrieve a boat that he had left on West Fork for the winter. He never returned. 32/

Two prospectors named Theodore Von Frank and Lee Page are known to have relied on the Nixon Fork for the transportation of supplies to their trapping grounds and prospects for 20 or 30 years. Von Frank had prospected and trapped the headwaters of Nixon Fork since the late 1900's. Each summer he descended the river to Takotna or McGrath where he purchased a winter outfit. When in 1931 he did not arrive at Takotna as expected, it was believed that he had died. And so in late July, Dick McArthur, Henry Peel, and Woodrow Vanderpool ascended Nixon Fork to its head in a boat to seek out Von Frank. They found Von Frank's cabin in good order. However, the old prospector and his boat were gone, leading the search party to believe that Von Frank had ascended the river to another cabin some 70 miles upriver. They later reported that Von Frank must have left the first cabin several weeks before their arrival for the water was very low. The search party returned to McGrath, arriving there on August 2. 33/

Von Frank must have appeared at Takotna or McGrath later in the summer. For in the summer of 1933, local residents again expressed fears that the prospector had met misfortune when he failed to visit the communities as expected. Another search party was organized and sent up Nixon Fork. This time they found Von Frank in his cabin located in the headwaters of the river. The old man had starved to death. The search party buried Von Frank near his cabin, and after collecting his possessions from the cabin and from another cabin about five miles upriver, they returned to Takotna River. 34/

Several months later, another search party was sent up the Nixon Fork, this time to search for Lee Page, a prospector and trapper whose headquarters had been located on the West Fork since 1909 or 1910. Apparently it was Page's habit to make several trips to McGrath in the summer to purchase his winter outfit. According to one report, the prospector "visited McGrath early each year of the open season, purchased his supplies, and again departed for his isolated home." He again purchased his usual supplies at McGrath, and left there in the latter part of June. When he did not return later in the summer, local residents became worried, and so dispatched a search party to West Fork. The party found Page in his cabin on West Fork. The man had died of natural causes at the age of 65. 35/

Page's headquarters may have been taken over by one E. Gilman. A local newspaper reported in October 1937 that Gilman had left Takotna for his trapping grounds on the West Fork of Nixon Fork. Considering the date of the report, it is likely that Gilman was using a boat. 36/

In recent times, hunters, trappers, and fishermen sometimes ascend the Nixon Fork in small boats. In the summer of 1979, Diane Cudgel-Holmes contacted 13 people in McGrath who had ascended the river or knew someone who had been on the river. Of this number, one individual, Amos Turner, a resident of McGrath for 30 years, had hunted and fished on the Nixon Fork for many years. It is not presently known how far Turner has traveled up the Nixon Fork. Two individuals - Jim Pierson and Vic Snow - have ascended the Nixon Fork as far as "burnt top" in Section 26, T. 26 S., R. 17 E., K.R.M., in boats ranging in length from 10 to 16 feet. The remaining people have ascended the river to the mouth of West Fork and farther.

Fred Demientieff, Pete Shephard, and the Rose Winkleman family have gone as far as the mouth of the West Fork. Demientieff and the Winkleman family were apparently hunting moose on the river. Shephard ascended the river in a 20-foot boat with jet units for an unknown purpose.

Six individuals stated that they have ascended the river beyond the mouth of West Fork. Since 1972, Ray Collins has ascended the river each fall during the moose hunting season. Ralph Anderson stated that he has reached the mouth of Washington Creek in a 20-foot boat with a propeller unit. Allan Anderson stated that he had ascended the river several times in the fall to the mouth of Ruby Creek; he used a 24-foot riverboat. John Andrews stated that he had ascended the river many times on hunting and fishing trips. Using a 20-foot riverboat and motor, he had been beyond the mouth of Hosmer Creek a few times, as well as up the West Fork. He noted that sweepers on the river above Hosmer Creek are dangers to downstream navigation.

Bill Woolard and Sonny Holmberg have gone even farther. In 1973, Woolard, who traps on upper Nixon Fork, ascended the river in a 16-foot boat with a propeller unit to a point just above the mouth of Washington Creek where he encountered sweepers at three shallow spots. Above this point, he said, the water was too shallow for his boat. However, in May 1979, when the water was high, Woolard and Holmberg ascended the river in an 18-foot boat with a propeller unit to a log jam located above the mouth of Cottonwood Creek. The jam consisted of a sweeper blocking two of the three channels. The third channel was too small for their boat. Although they could have removed the sweeper and continued upriver in the boat, they decided to walk to a cabin on Whirlwind Creek where they had a 16-foot boat, which had been hauled to the place during the winter. Using the smaller boat, they descended Nixon Fork to the log jam where they transferred to the larger boat. By early June, they were floating down the Nixon Fork. The water was low, they recalled, preventing them from using the motor for two days. At times they encountered sand bars, and sometimes had to sound channels. In any event, they eventually reached the Takotna River.

Holmberg also stated that he had ascended the West Fork as far as the mouth of the unnamed tributary on the eastern edge of T. 24 S., R. 19 E., K.R.M. The trip was made with an 18-foot boat. 37/

Tatalina River

Evidently little boat traffic has occurred on the Tatalina River. Local newspapers reveal that use of boats on the river was dangerous. One newspaper, for instance, reported that a L. N. Wilson attempted to descend the river, but his boat struck a sweeper and overturned. His wife and son remained ashore and witnessed the incident. 38/

In 1979, Diane Cudgel-Holmes interviewed three local residents who had used the river in boats. Ralph Anderson said that he had frequently ascended the river as far as the bridge. Amos Turner stated that he had taken a 24-foot boat upriver a distance of 20 miles, and that he could have proceeded farther. Finally, Frank Turner claimed to have frequently descended the river to McGrath in a canoe, apparently from the bridge as he reached the landing by automobile from Takotna. 39/

SOUTH FORK OF THE KUSKOKWIM RIVER

According to oral tradition, the South Fork of the Kuskokwim River was long used by Indians and some Eskimos as a route of travel from hunting grounds in the Alaska Range to villages on the South Fork and Kuskokwim River. Interviewing several elders of Nikolai village in the summer of 1960, Edward H. Hosley, an anthropologist, learned that until the 1910's or 1920's, Indians of Old Nikolai, located several miles by land or eight miles by river from present-day Nikolai, usually traveled as a group to the mouth of Big River in early spring. Relatives from Vinasale would join the Nikolai group at Big River and then all would travel southeastward by dogsled to the foothills of the Alaska Range, arriving there before the spring breakup of the river ice. During the summer, the Indians migrated eastward, hunting all the while along the upper reaches of the Middle Fork, Windy Fork, and Sheep Creek. By fall, the Indians would have reached the headwaters of the South Fork. They would then build bullboats of caribou hides, and with their summer's catch float down the South Fork to their villages.

Eskimos took a somewhat different route. Reaching the foothills by way of the Stony River drainage, they moved northward to the headwaters of Big River and sometimes to the South Fork in pursuit of caribou. In the fall, they too constructed boats of caribou hides, and descended the rivers to their villages on the Kuskokwim River. 40/

Once the Orthodox priest began to visit the villages in the upper Kuskokwim basin, the Indians altered their seasonal round in order to accommodate the priest's visits. In early June, the Nikolai Indians descended the South Fork and Kuskokwim River to Vinasale, where they visited with relatives, set up fish camps, and awaited the priest. The priest would arrive at Vinasale in early summer, and then all would travel to Old Nikolai Village. Following the priest's visit, the Nikolai Indians,

together with Indians from Vinasale, Big River, and Salmon River, traveled as a group, sometimes numbering 40 or 50 people, up the South Fork in canoes to a point near the mouth of the Little Tonzona River, above which point the river was usually not suitable for canoe travel. Upon their arrival, the group then followed a well-known summer trail beginning at the fish camp on the Itzulkashno to the foothills of the Alaska Range in the east. Hunting sheep, moose, and caribou during most of the summer, the Indians would construct canoes and bullboats in early September, and with these crafts loaded with meat descend the South Fork to their respective villages. 41/

Precisely when this seasonal round ceased is difficult to determine. As roadhouses were established on the Rainy Pass trail in the 1910's, and with the development of "market hunting" in the upper Kuskokwim basin, game populations were subject to heavy pressure from both Indians and whites. As big game was either decimated or driven away, the large hunting expeditions became less successful and eventually were abandoned.

The first written record of travel on the South Fork comes from Josiah Edward Spurr in 1898. Reaching the headwaters of South Fork by way of Ptarmigan Valley, Spurr and his men lined their Peterborough canoes through Hellgate to the mouth of Hartman River. The expedition being short of supplies, Spurr decided to "shoot" the rapids of the upper South Fork. As he described this part of the trip: "The fall of the river was very great, and rapids were almost continuous; but as the state of our provisions did not admit of much delay nearly all of these rapids were run through in the canoes, and in this downstream traveling our progress was as rapid as it had before been slow." 42/ Before reaching the foothills of the Alaska Range, the expedition made only one portage, about one-quarter mile in length, in order to avoid a short canyon.

On July 25, 1898, the Spurr expedition finally left the mountainous terrain and entered a "broad, flat, gravelly plateau." Spurr estimated that they had traveled 100 miles, passing through "snag flats similar to those we had ascended on the Susitna, presenting, if possible, even a more formidable aspect to the explorer," 43/ On July 27 they saw an uninhabited Indian village, the first they had seen in two months. Some distance below the village, Spurr wrote, "the water suddenly grew slacker until it entirely changed its aspect and was a slow, placid current flowing through silt banks." 44/ On July 29, they encountered a large tributary on the right limit which Spurr named the East Fork. In all probability, he saw the North Fork, which he correctly recognized as one of the two streams making up the main Kuskokwim River.

In his report on the historic expedition, Spurr made it clear that he did not consider the upper and middle portions on the South Fork a practicable route of water travel, declaring that "it can never be safe for travelling." The upper stretches of the river were exceedingly swift, while the middle stretch was characterized by "snag flats." These Spurr described as follows:

Where the river flows through the gravels the facility with which these are eroded tends to make the stream spread out broadly, especially at the junction of a tributary, so that it often flows in many channels which change continually in position and volume and split and reunite so intricately that it is hard to find a passage over for a canoe. These channels are often choked with dead trees brought from the stream above, and such areas are called in the report 'snag flats.' 45/

Spurr thought it doubtful that a "boat could be gotten upstream by any means." 46/

As far as the lower South Fork was concerned, Spurr seemed more optimistic about the possibilities for boat traffic. At a point little more than half of the distance between the mountains and the junction of the North Fork, the current of the South Fork "rather suddenly becomes gentle and the river meanders between low banks of fairly stratified silt and sand, with some fine gravel." 47/

Following Spurr's expedition of 1898, some prospectors and trappers evidently ascended the river in boats for unknown distances. According to Hosley's informants, in the fall of 1901 a small steamboat carrying six prospectors and trade goods ascended the South Fork to the mouth of the Little Tonzona River where the boat wintered. The prospectors spent the winter at the village, trading for furs and prospecting for gold, and in the following summer returned down the Kuskokwim River. Hosley noted the fact that Alfred Hulse Brooks wrote in 1911 that a small steamboat ascended the Kuskokwim River as far as the junction of the North and South Forks in 1901; and moreover suggested that the steamboat was owned Joaquin, Twitchell & Fowler Company, a suggestion first made by his mentor Wendell Oswalt. 48/ There is no conclusive evidence presently available to indicate whether, first, the steamboat did ascend the South Fork and, second, the steamboat was owned by the commercial company. As a result of the Yellow River gold rush, a number of steamboats were on the upper Kuskokwim River in the early 1900's.

It is certain, however, that white trappers and prospectors were on the South Fork in the early 1900's. In 1907, for example, the Gordon brothers met a trapper in a boat on the North Fork who claimed to have spent three years on the South Fork. While on the Minchumina Portage, they met two trappers with a large poling boat. Both were headed for the South Fork, and were prepared to spend two years on the river. 49/

Some prospectors also crossed Rainy Pass from Cook Inlet during these years, and may have descended the South Fork. One account of such an expedition comes from Tom Odale. Upon learning of favorable reports of the Kuskokwim River, Odale and Jack Clouse left Cook Inlet in October 1906 for the region. Purchasing a boat at Susitna Station, they ascended the Yentna and Skwentna Rivers. Joined by two prospectors named Jim

Ward and Mike Stagner, the men constructed sleds from their boats and traveled overland via Rainy Pass to the South Fork. In February 1907, they established camp several miles below Post River, unable to follow the South Fork due to overflows. In April, they built a 26-foot scow, six feet wide, and with the breakup of the river ice in May, began the journey downriver. On the second day of the journey, they reached Nikolai Village, which Odale estimated to be located about 20 miles above the junction of the North and South Forks. The Indians told them of the gold strike on Ganes Creek and the new trading post at McGrath. With that the Odale party became one of many to stampede to the Innoko River.

During the summer of 1907, the Odale party prospected on the upper Innoko River, freighted supplies on the Takotna River, and even joined a rush to the head of Nixon Fork. While on the Nixon Fork, they decided to retrace their route to Cook Inlet, and so returned to McGrath. Using the scow which they had built near the head of South Fork, the men required four days to reach Nikolai Village. Beyond the village they found the journey very difficult. As Odale recalled: "The farther we got up the South Fork, the harder the going became, of course, as the river grew narrower and swifter. With three men on the towline and one in the boat to keep it off the banks, we made slow progress." Prospecting along the way the Odale party finally reached a point within 10 miles of their former camp. There they made camp and built three sleds from the scow. In November, with snow on the ground, they began the overland trek to Rainy Pass and Cook Inlet. 50/

With the discovery of gold on Ophir Creek and Iditarod River in the late 1900's, other prospectors were to follow the route of the Odale party to the Kuskokwim basin. Unlike the Odale party, however, most prospectors took the route during the winter months, when travel was easiest. Subsequently improved by the Alaska Road Commission, the Seward-Iditarod trail became an important route of travel between the Kuskokwim and Susitna River basins. The trail also made it possible for prospectors to reach favorable prospects in the Alaska Range, particularly on Hartman River, where gold was discovered in the winter of 1908-09, and was the scene of several minor gold rushes in the late 1900's and early 1910's.

The original trail apparently followed the right limit of the South Fork from Tatina River to Nikolai Village, thence overland to the mouth of Big River. At Nikolai, travellers found a trading post and a steamboat. In 1908, when visiting the Innoko district, Alfred G. Maddren learned that several steamboats had ascended the South Fork a distance of about 40 miles. 51/ One of these steamboats was certainly the May D. Writing in 1910, Anton Eide reported: "A year ago Capt. Holtman with the steamer May D., draft four feet and a cargo of 35 tons, ascended the river 650 miles from Bethel to Nicholai, near Tonzona, on the south fork, where he wintered. This is the end of navigation for power boats." 52/ The steamboat again ascended the South Fork in 1910, and wintered there. One newspaper reported that a "Captain Holten" and the steamboat May D.

was located on the South Fork, about 35 miles from the Big River trading post on the winter trail. 53/ The steamboat may have been owned by an independent trading firm, although it is known to have hauled freight up the Kuskokwim River to Takotna for the Kuskokwim Commercial Company. 54/

In 1911, the Alaska Road Commission constructed a trail from the mouth of Salmon River directly to Farewell Mountain, and roadhouses on the original trail were relocated to the new winter trail. Nikolai Village was no longer on the established route of winter travel. In the early 1920's, the village was relocated downriver about eight miles to its present location. According to Hosley, the move was required by subsidence and subsequent flooding.

Boat traffic on the South Fork to Nikolai Village has been relatively heavy. In 1948, the Territory authorized construction of a school at the village and construction materials were subsequently shipped by barge to Medfra, thence by small boats to the village some 40 river miles from Medfra. 55/ In the early 1960's, the village received annually about 100 tons of bulk materials, nonperishable goods, and petroleum products. 56/

Writing in 1961, Edward Hosley claimed that the people of Nikolai seldom ascended the river above their village. The bulk of the traffic was between Nikolai and Medfra. In early spring, the men left Nikolai in boats to Medfra, while those with children followed in early June. The people usually remained near Medfra until early September when they returned to their village. 57/

In the matter of boat traffic above Nikolai Village, the historic record is virtually silent. In 1918, it was reported that the mail carrier was forced to leave 800 pounds of first-class mail at Tatina River, unable to take the winter trail owing to an early breakup of the river ice. The carrier sent two men to Tatina River with equipment to build a boat in order to bring the mail to McGrath. 58/ In addition, Hosley reported that one family at Nikolai traditionally ascends the South Fork each season in boats to the Itzulkashno, where they operate a fish trap. 59/

In 1979, Diane Cudgel-Holmes interviewed 15 local residents who at one time or another ascended the South Fork of the Kuskokwim River. Of this number, four claimed to have gone no farther than the Little Tonzona River. Bill Woolard of Medfra stated that he has guided parties up the South Fork to the Little Tonzona River on four separate occasions within the past two years. He used a 24-foot boat; he said one must know the channel as the river is braided. Bobby Esai of Nikolai Village occasionally ascended the South Fork to Alexia's cabin on the Little Tonzona River, which he described as swift and crooked. He used a 28-foot wooden boat or smaller skiff. He noted too that some people from Nikolai Village go up the river to Little Tonzona River each year to fish for grayling and salmon. In 1971, Kenneth T. Alt, a biologist employed by the State of Alaska, ascended the river a few miles in a 24-foot boat with a propeller unit. Finally, Nic Alexia of Nikolai Village

stated that he annually ascends the swift South Fork in a 20-foot boat with a propeller unit a distance of about 15 miles or two hours running time, during the fall to hunt. He also traveled by boat to his mother's cabin on the Little Tonzona River, above which point the river is shallow and narrow with much brush on its banks.

Six individuals stated that they have taken boats as far as the "first bluffs," located near the 800-foot contour line in T. 31 N., R. 25 W., S.M. Ray Collins, a resident of Nikolai Village for nine years, used to ascend the South Fork to hunt and fish as far as the bluffs once or twice a year in a 25-foot boat. He stated that the river was shallow in some places, and in fact was not able to reach the bluffs with a local guide on his first trip owing to low water. He also used to ascend the Little Tonzona River at least once or twice a year. Philip Esai stated that he has been up to the bluffs. Pete Gregory of Nikolai Village used to go up the river to a point below the bluffs to hunt moose and caribou. Nic Petruska of Nikolai Village ascended the river each fall to hunt to the north border of T. 31 N., R. 25 W., S.M., a considerable distance below the bluffs. Pete Shephard, a game biologist, stated that he ascended the South Fork in 1974 in a 20-foot boat with jet units to near the bluffs. He claimed that he could have gone farther if the water level had been higher. Finally, Nic Dennis of Nikolai Village stated that he ascended the South Fork annually during the fall hunting season in a propeller-driven wooden boat, about 30 feet in length, as far as the bluffs.

Four individuals claimed that they had ascended the South Fork beyond the bluffs on occasion. Nic Dennis said that he used to pole a wooden boat to Egypt Mountain, the last time in 1974. Dennis guided hunters for 14 years near Farewell Lake Lodge, mainly by airplane. He said that many people of Nikolai Village ascended the South Fork in boats to Egypt Mountain and Tatina River, although there are places where they must line the boat. Junior Gregory of Nikolai Village stated that in 1951 he ascended the river to Egypt Mountain in a 20-foot wooden boat and motor for hunting purposes. He encountered some shallow spots with rocks. Miska Deaphon, an elder of Nikolai Village, recalled that he with his father used skin boats on the South Fork until the late 1910's while hunting sheep, caribou, and moose. He stated that he had ascended the river at least twice to Post River in a 32-foot boat with 18-horsepower motors when hunting for sheep and moose. He did it once in 1942. John Andrews, a guide on the upper South Fork from 1950 to 1963, stated that the river was too shallow for boats in the fall. However, he recalled that in the 1960's he once hauled a load of lumber upriver to Farewell Lake Lodge in a 30-foot boat, and that he had once seen an old 30-foot poling boat on Tatina River. Finally, in 1977, Nic Dennis descended the South Fork from a point a few miles above Farewell Lake Lodge to the lodge, picking up bison along the way. 60/

BIG RIVER

Before the construction of the Salmon River - Farewell Mountain section of the Rainy Pass trail in 1911, boat traffic on Big River and Pitka

Fork consisted of Indians from Salmon River Village going up and down the streams in canoes. According to Hosley, Indians of Salmon River Village, located near the mouth of Salmon River, traditionally descended the streams each year in early spring to the mouth of Big River. There they joined Indians from Nikolai and Vinasale in the journey to the foothills of the Alaska Range for the summer hunt. In the fall they too would descend the South Fork in boats, and continuing down the Kuskokwim River, make their way up the Big River and Pitka Fork to their village. This seasonal round apparently continued until the 1910's or 1920's. 61/

After the construction of the Salmon River - Farewell Mountain trail, many prospectors, trappers, hunters, roadhouse proprietors, and travelers bound for Anchorage, ascended Big River and Pitka Fork to the mouth of Salmon River. During the summer months, prospectors and trappers chartered boats to transport their winter outfits to Salmon River. Once conditions on the winter trail were suitable, they traveled overland to Hartman River, Windy Fork, and Sheep Creek. Others continued on the trail to Anchorage.

Roadhouse proprietors on the Rainy Pass relied considerably on the rivers during the summer in transporting supplies and equipment to their headquarters. Some chartered boats, and others used their own. As a matter of fact, some proprietors spent the summers freighting supplies on the Takotna River. Joe Blanchell, the proprietor of Farewell Mountain Roadhouse, was mentioned in connection with freighting operations on Takotna River in 1911. 62/

Once the Rainy Pass trail was adopted as a mail route, mail carriers transported horse feed to Salmon River for use in the winter. In August 1915, for example, it was reported that Tom Boyd, a mail carrier, was hauling horse feed to Salmon River in his new boat, which was powered by an Evinrude motor. The mail carriers intended to use horses to carry the mail on the winter trail as far as possible. 63/

Boat traffic on Big River and Pitka Fork during the late 1910's must have been substantial, for in the early issues of The Kusko Times, the first newspaper published in the upper Kuskokwim basin, there are numerous, scattered references to boats on the rivers. Some of the named boats include: the Shamrock, the Snookie, the Thor, the Salmon River Flyer, the Roosevelt, the Yodler, the Alaska, the U-600, and the Redwing.

While it is not practical to describe each reference to boat traffic on the rivers, a few examples will serve to indicate the nature and volume of the traffic. In May 1921, The Kusko Times reported that Charles Nystrom left McGrath in the motorboat Shamrock for the North Fork with at least five passengers. Most of the passengers were bound for Medfra, but one named Ton Conley, a prospector on Windy Fork, was headed for Salmon River. About the same time a Captain McMullen left McGrath in the launch Snookie. He carried two passengers, one of whom, Jesse Yoder, was bound for Salmon River. Apparently Yoder had left his launch

at Salmon River during the winter. About two weeks after his departure, it was announced that Yoder had arrived at McGrath in his launch from Salmon River. Yoder left McGrath shortly thereafter with passengers for Medfra. Later, in mid-October, Joe I. Wills left McGrath in the Aloha with five passengers for Salmon River. All five passengers intended to take the winter trail to Anchorage. 64/

During the summer of 1922, Victor Nystrom made a number of trips up Big River and Pitka Fork in the launch Redwing. In early June, he left McGrath with Einar Carlson, a trapper in the Tatina River section, for Salmon River. Several days later Nystrom returned to McGrath from Salmon River with a barge that had been left there in 1921. In July, he again left McGrath for Salmon River, taking with him Frank R. Cioli, who was returning to his roadhouse at Peluk. Finally, in October, Nystrom again went to Salmon River, this time accompanied by the trapper Herman Hinsche. 65/

Several roadhouse proprietors on the Rainy Pass trail had their own boats, which they used to supply their winter headquarters, and to transport freight and passengers on the upper Kuskokwim River and tributaries. Frank Fox, the proprietor of Salmon River Roadhouse, advertised his boat, the Thor, in The Kusko Times as a "fast boat" (12 horsepower) for the transportation of passengers and freight on the Kuskokwim River and tributaries. In early August 1921, the Thor left McGrath for Salmon River, carrying Joe Blanchell and a large quantity of freight for several roadhouses on the Rainy Pass trail south of Salmon River. In September 1921, Frank Fox and Fred Beaubeu returned to McGrath from Salmon River after an absence of several weeks on the launch Salmon River Flyer. Fox subsequently left McGrath in the same launch for Salmon River with three passengers, all of whom were bound for Anchorage. 66/ In September 1922, the Thor left McGrath for Salmon River with August Sharfe on board. Sharfe was headed for his Mountain Climber Roadhouse in the Rainy Pass section. In mid-October 1922, the Salmon River Flyer arrived at McGrath from Salmon River with James Pernie, Frank Lange, Louis Sundbeck and John William on board. These men had been working on the Rainy Pass trail during the summer. They had been transported to the trail at Salmon River on the launch Roosevelt in early August 1922. 67/

The Roosevelt was owned and operated by Robert Jones and James "Bob" Davidson, the proprietors of the Rohn River (Tatina River) Roadhouse. In June 1921, Jones transported Frank Fox from McGrath to Salmon River. In August 1921, Jones, Davidson, and Frank Cioli left McGrath for Salmon River. All were returning to their roadhouses on the Rainy Pass trail. Perhaps this was the last trip for the season, for the launch was not reported again until the spring of 1922, when Jones, Davidson, and Joe Blanchell arrived at McGrath on the boat for an indefinite stay. 68/

After the Rainy Pass trail was abandoned as a mail route, and the roadhouses suspended business, the volume of traffic on Big River and Pitka Fork declined significantly. During most of the 1920's and all of the 1930's, traffic on the rivers consisted principally of trappers and

prospectors ascending the rivers to Salmon River, where they then sledged to their winter headquarters; and, in the spring, descended the streams to McGrath. A few examples from The Kusko Times will serve to illustrate this custom. In May 1921, A. J. Hosmer followed the ice down Big River to McGrath with a load of ducks and game. 69/ In early May 1924, Bob Davidson and Einar Carlson arrived at McGrath from their headquarters on Tatina River. In late July 1926, Charlie White and Frank Lange arrived at McGrath from Salmon River. In June 1928, Frank Cioli arrived from Peluk. In July 1928, Frank Lange arrived from Salmon River. In May 1930, Einar Carlson arrived from Tatina River. Finally, in 1937, Joe I. Wills left Takotna with two boats loaded with dogs and a winter outfit; he was bound for Salmon River, from which point he intended to sled to his trapping grounds on Sheep Creek. 70/

According to the late Virgil Knight, the Civil Aeronautics Authority made considerable use of Big River and Pitka Fork during the 1940's in transporting fuel to the navigational aid station near Farewell Lake. Fuel was taken up the Kuskokwim River to Farewell Landing by steamboat and there stored in holding tanks. The fuel was then transferred to 55-gallon drums, which were transported by barge up Big River and Pitka Fork to the mouth of Salmon River. Tractors were then used in the winter to transport the fuel to the Farewell station. The federal agency reportedly continued this method of transport until the late 1950's, when air transport from Anchorage was adopted. 71/

In more recent times, local residents ascend Big River and Pitka Fork in boats for the purpose of hunting and fishing. Hosley reported that natives ascend Big River in boats, and usually harvest several moose each season. It is known, too, that Miska Diaphon of Nikolai Village maintains a fish camp near the mouth of Salmon River which he presumably reaches by boat each summer. 72/

Little is known at present about use of boats on Big River and its tributaries above the mouth of Pitka Fork. In 1949 or 1950, A. T. Fernald of the Geological Survey descended Big River in a canoe, having gained access to the river by landing an airplane on a nearby lake. Nothing else is known about the trip. 73/

Only a few local residents have ascended Big River above the mouth of the Middle Fork in recent years. Bobby Esai stated that he has ascended the river to his Native Allotment as well as to his wife's allotment in Section 25, T. 31 N., R. 30 W., S.M. He has taken a skiff past his wife's allotment, and has been up the river as far as the northwest corner of T. 29 N., R. 31 W., S.M. in a boat to hunt caribou and to prepare for the trapping season. He stated that he can usually go beyond an unnamed stream called Otter Creek in the fall with a boat ranging in length 20 to 28 feet. It is shallow and rough water to that point and one must exercise caution to reach that point. The creek is reportedly located in Section 19, T. 31 N., R. 29 W., S.M. Pete Gregory stated that in the spring of 1942 he ascended the river to Otter Creek,

where he hunted for otters. Pete Shephard said that in 1975 he was able to reach the southeast border of T. 27 N., R. 31 W., S.M. in a 20-foot boat with jet units. Beyond that point, he said, the river is braided, very swift with rapids.

As concerns the Middle Fork and its tributaries, local residents report little traffic. In 1971, Ken T. Alt ascended the river a few miles in connection with fish studies. In 1936, Pete Gregory went up the river to Mary Conley's cabin in Section 35, T. 33 N., R. 29 W., S.M. Miska Deaphon stated that he had ascended the Middle Fork many times on hunting trips for sheep in the mountains. Evidently he was able to reach the mouth of Windy Fork, for he stated that he had to travel overland from that point to the mountains. Bobby Esai has also ascended the river to the Windy Fork many times for hunting and trapping purposes. He used a skiff and motor to reach the southern border of T. 31 N., R. 29 W., S.M. In the fall of 1947, he recalled, he took his wife and two children up the river to the Windy Fork, planning to spend the winter in the hills. He towed the boat up Windy Fork for a distance of four to five miles, and then used dogs to mush overland to the mountains. There are several Native Allotments on Windy Fork, which are used as camps for sheep hunting. Rose Winkleman of McGrath reaches the allotments by airplane.

Local residents continue to travel on the Pitka Fork to the mouth of Salmon River. Some have gone beyond that point, however. Miska Deaphon, who has a Native Allotment at the mouth of Salmon River, stated that he used to ascend the Pitka Fork to a point above the mouth of Sheep Creek in order to hunt and trap in the fall. He had to pole the boat part of the way but otherwise had no difficulty. One unidentified person claimed that it was possible "sometimes" to reach the southeast section of T. 31 N., R. 28 W., S.M. by boat.

A few people have also ascended the Salmon Fork and its tributaries. Glenn Bass, a four-year resident of McGrath, stated that he had ascended Salmon Fork and its first left tributary for a distance of about 15 miles, which was as far as he could go. He used a boat with a jet unit, and goes there every year to fish for king salmon. He has traveled as far as the northeast part of Section 11, T. 32 N., R. 28 W., S.M. Terry Chase ascended the Salmon River with a 20-foot riverboat with a propeller unit to a point in Section 3, T. 32 N., R. 28 W., S.M. where he fished. Phil Esai ascended Salmon Fork once in awhile for fishing purposes. He has been up both forks a few miles to the northern part of Section 32 and the western edge of Section 33, T. 33 N., R. 27 W., S.M. Jim Pierson also fishes on the Salmon River each year, but he goes only a few miles in a boat with a jet unit.

Finally, there is Blackwater Creek, a tributary of Big River. In 1971, Ken T. Alt ascended the stream a distance of about 10 miles in a 24-foot riverboat. Alt claimed that he could have ascended the creek in the same boat a farther distance "had he needed to." 74/

NORTH FORK OF THE KUSKOKWIM RIVER

The North Fork of the Kuskokwim River has long been an important water route to the Tanana and Yukon basins. Indians and later white prospectors, trappers, and hunters ascended the Tanana, Kantishna, and Muddy Rivers to Lake Minchumina, crossed a low divide to the North Fork, and descended that stream to the Kuskokwim River.

Although neither had been on the route, Josiah Edward Spurr and Lieutenant Joseph S. Herron knew of the portage between the Tanana and Kuskokwim Rivers. 75/ The first specific mention of the Minchumina Portage was made by Herron in 1899: "A short portage between Minchumina and the Kuskokwim results from the extraordinary invasion of the former into the latter's territory, and the Indian canoe route between these waters is via this portage." 76/ The location of the portage is correctly illustrated on Herron's map of the upper Kuskokwim basin.

Spurr and Herron were not the first white men to know of the existence of the trail. Spurr himself recorded that sometime in the late 1880's, Frank Densmore and a party of prospectors journeyed from the Tanana River to the Kuskokwim River. It is not known what season of the year the journey occurred, but if the prospectors traveled in the summer, as seems probable, they doubtless crossed the Minchumina Portage. Other white men were to follow. Spurr learned that a prospector named Al King followed Densmore's route about the same time. Interviewing several Indian elders in the basin in the early 1960's, Hosley learned that a few white trappers travelled from the Kuskokwim River to the Tanana River via Minchumina Portage. In the late 1880's or early 1890's, a white trapper ascended the North Fork, crossed the portage, and descended the Kantishna River to the Tanana River. The Indians considered this ascent of the North Fork by one white man as a "near super-human feat, since the current is comparatively rapid on the upper reaches of the river." 77/ Not long thereafter, a small party of white trappers took the same route. Oral tradition has it that one of the white men was killed somewhere on the upper reaches of the North Fork by Koyukon Indians from the west. 78/

Following the gold rushes to the Kuskokwim River and the Kantishna River in the 1900's, prospectors and trappers doubtless crossed the Minchumina Portage to explore virgin territory, and to travel to the new gold camps on the Lower Kuskokwim River, the Kantishna River, and at Fairbanks. Unfortunately, few recorded their experiences. The Fairbanks Northern Light, a local newspaper, did report that J. D. Green and J. M. Smith ascended the North Fork in a knockdown steam launch in the summer of 1906. The two men wintered on the launch at the mouth of Swift Fork, then known as McKinley Forks, and in the spring, when trail conditions were suitable, traveled to Fairbanks. The two men reported that "in high water a launch could be steamed to within ten miles of Lake Minchumina, the head of navigation for the Kantishna." 79/

By this time the Minchumina Portage had already become a well-known route of travel between the Kuskokwim and Tanana Rivers. In 1907,

George B. Gordon and his brother Maclaren ascended the Kantishna and Muddy Rivers to Lake Minchumina, crossed the portage to the North Fork, and descended that stream and the Kuskokwim River to Bethel. George B. Gordon's account of the journey was published in 1917; it was the first detailed description of the route. While the journal is primarily of interest to anthropologists, as it contains a great deal of information about Indians in the Lake Minchumina area, it contains many references to the fact that the Minchumina Portage was heavily used by white prospectors and trappers.

The Gordon brothers had learned of the existence of the Minchumina Portage in 1905. While visiting Tanana, an Indian village on the Yukon River opposite the mouth of the Tanana River, George B. Gordon obtained a crude map of the Lake Minchumina area showing the location of the portage from Chief Henry of the Tanana Indians, with the Reverend Jules Prevost, a missionary at nearby Fort Gibbon, acting as interpreter. They learned from the Indian that Kantishna River had its source in Lake Minchumina and that the Kuskokwim River could be reached from the lake. According to the Chief, the Kuskokwim River was "good water."

Intending to take the Kantishna River - Lake Minchumina route to the Kuskokwim River, the Gordon brothers returned to Tanana in 1907, and learned of the recent gold rush to Kantishna River and rumors of someone ascending the Kantishna River to the lake in a poling boat. In June 1907, the brothers began the long journey to the lake in a canoe. Using the map provided by Chief Henry as a guide, the Gordon brothers reached the lake after nearly a month of difficult travel. They met two Indians in a small village on the lake who informed them that two white men in a large poling boat had crossed the lake to the portage 10 days earlier. The Indians told the brothers that one could cross the Minchumina Portage, travelling light, in five days, and gave them a birchbark map of the lake, portage, and the North Fork.

After exploring the lake the Gordon brothers began the trek across the portage in early August. After crossing a low divide, they found signs, including an improvised roller, of someone dragging a boat over the ground. About two miles from the North Fork, they finally encountered two men with a poling boat. Gordon failed to record the names of the two men, only saying that they were bound for the South Fork of the Kuskokwim River where they planned to spend two years prospecting and trapping. Continuing their journey, the Gordon brothers finally reached the North Fork on August 7, having spent seven days on the portage, estimated to be 10 miles in length.

The Gordon brothers subsequently required about eight days to descend the North Fork and the Kuskokwim River to McGrath in their canoe. On the first day on the North Fork, they saw a cabin on a high bank. A trapper had built the cabin the previous summer and occupied it through the winter. On the third day, they found an Indian summer camp on the left bank of the river. The Indians on Lake Minchumina had described the camp to the Gordon brothers. The camp was occupied by only one "very ancient Indian." Then, on the fifth day on the river, August 12,

they met two trappers rowing two boats upriver. The two trappers had met several days earlier, and decided to form a partnership and trap on the North Fork for the winter. One of the men had spent three years on the South Fork of the Kuskokwim River; the other had spent the previous winter on the Takotna River and decided to abandon the field when prospectors appeared in the spring.

Shortly after encountering the two trappers, the Gordon brothers passed the mouth of Swift Fork, or as the Indians called it the Totzona, a muddy stream. Near the mouth of the river, they found a hut on the bank and two Indians in birchbark canoes who stated that their village was a short distance upriver. On the eighth day on the river, the Gordon brothers finally passed the mouth of the East Fork or the Chedotlothna and the two outlets of the South Fork or Istna, where they met an Indian in a canoe and saw the cabin of a trapper who had died sometime in the previous winter. From that place they pushed on to the new trading post of McGrath, thence to Bethel on the lower Kuskokwim River where they obtained passage on the Hattie B. to Nome. 80/

The Gordon brothers reached the upper Kuskokwim River shortly after the gold rush to Ganes Creek. As more prospectors entered the area following subsequent gold discoveries on the Innoko River and Kuskokwim River, some would travel up the North Fork to trap and to prospect. The account of Lee Raymond Dice in 1912 reveals the extent of traffic on the North Fork at that time.

In February 1912, Dice, a deputy game warden, and Stephen Foster, a noted guide, traveled overland from Tanana to the headwaters of the North Fork by way of the Cosna River, a tributary of the Tanana River. Descending the North Fork for about 12 miles, they found two men named Ben Anderson and James Johnson in a small cabin on a creek draining Haystack Mountain, also known locally as Cone Hill or Mount Unsuzi. Anderson and Johnson had spent the winter on the creek, digging prospect holes and trapping fur-bearing animals. Dice and Foster remained at the cabin, and assisted the prospectors in the construction of a poling boat, a narrow, flat-bottomed craft about 33 feet in length with pointed ends. The boat was capable of carrying a load of one ton or more. On May 1, the ice in the North Fork went out; and 11 days later, Anderson, Johnson, and Foster left the camp in the poling boat for McGrath. The prospectors intended to trade their furs for provisions at McGrath, and then return to a different location on the North Fork for another year of prospecting and trapping.

During early June, Dice constructed a scow, which was 17 feet long with flared sides seven feet wide. On June 18, a man named Ben Mozee joined him, and five days later both began to float down the North Fork. Dice recalled that the river was "small, swift, with dangerous snags." Landing at the portage, Dice and Mozee walked over the trail to Lake Minchumina. Dice recalled that men took boats over the portage each year, and in this instance he found two men on the eight-mile portage. One man had dragged a large canoe to the lake and was carrying his equipment over the last stage. His companion had already dragged a

heavy poling boat over the trail to the lake. Dice saw various contraptions used to haul boats over the portage. One was a small cart designed to move on a track of birch poles. Another was a large cart which someone pulled over the trail with handmade pulleys and rope.

Returning to the North Fork, Dice continued his journey down the river. Their progress was rapid, the current being swift in many places, occasionally broken by long sluggish stretches. After several days on the river, Dice noted that the current gradually became sluggish in a stretch of a few miles to the junction of the McKinley Fork (Swift Fork). Rowing the scow through the "dead water," they finally reached the mouth of the Swift Fork, a large muddy stream. There they met an Indian named "Sheshuey" or "Shesuie" in a canoe who had a cache of rotten moose meat nearby. Dice learned that the Indian's village of Telida was located 10 miles overland or 25 miles by river up the Swift Fork.

Below the mouth of the Swift Fork, Dice and Mozee found the current of the North Fork very rapid, with many shallow places. Several times their scow struck the stream bottom. Numerous sunken logs and stumps, and sweepers were hazards to navigation. They passed a few cabins on the banks, but most were vacant. They did see two cabins occupied by prospectors who had already made their summer trip to McGrath to obtain supplies and were busily prospecting. They met one man on the North Fork who was returning to his cabin; and near Big River they passed several men bound for the North Fork.

Dice eventually reached McGrath, then a community of three or four cabins, and ascended the Takotna River to Takotna. He subsequently returned to McGrath and floated down the Kuskokwim River to Bethel. 81/

Not long after Dice passed through the district, the North Fork received a considerable amount of attention when Bob Lagin, a trapper and prospector, disappeared in the headwaters of the stream. In August 1914, Stephen Foster, a guide and trapper residing in Fairbanks, informed authorities that in March 1913, while in the Lake Minchumina area, he had learned from Indians that Lagin was on the North Fork, about three miles below the Minchumina Portage with ample supplies recently acquired from Jesse Yoder. Foster reported that, following a confrontation with Indians at the mouth of the North Fork, Yoder and Lagin had ascended the North Fork in a boat and canoe. Apparently fearing reprisals from the Indians, Yoder refused to remain on the North Fork and returned to McGrath, leaving the canoe with Lagin. 82/

When Lagin failed to return to McGrath, rumors had it that Lagin had been murdered by the Indians. In a letter to Deputy Marshal Percy G. Charles, Wilbur F. Green, the U.S. Commissioner, expressed his suspicions that Indians had killed Lagin, and described a recent conversation with Yoder. Lagin and Yoder had killed two moose about 35 miles up the North Fork. The two men separated on September 12, planning to meet again in McGrath at Christmas. Yoder then took the moose downriver in a poling boat to the Big River trading post while Lagin went up the North Fork for about 45 miles in his canoe to trap. Two days later, Yoder encountered

Indians from the Swift Fork who attempted to intimidate him. A fist fight resulted, and, according to Yoder, a gun battle would have occurred if the Indians had not been aware of his prowess with a rifle. Yoder was convinced that these same Indians had killed Lagin, recalling too that another man named John Sigurson had recently disappeared in the country.

Green also described a conversation with Paul Minnick, a German who had recently returned from a hunting trip on the North Fork. Minnick had ascended the river in a motorboat to the mouth of McKinley Fork (Swift Fork), where a cabin owned by another German named Federick was located. Shortly after Minnick reached the cabin, "Chief Soo Suey" also arrived in a boat and both spent the night in the cabin. Questioning the Indian, Minnick was given to understand that Lagin and two Indians had died on the same day. Green noted that Minnick and the Indian may have misunderstood one another, as neither did not understand English well. He wrote too that one Cowan, who found Lagin's canoe and took it to the Big River trading post, stated that Lagin crossed the divide to the Nowitna River. 83/

Rumors that the Indians had killed Lagin were eventually squelched by the investigation of Harry Sheppard, a Deputy Marshall at Ophir. In January 1915, he announced that Lagin had not been murdered by Indians. 84/

During the remainder of the 1910's or 1920's, prospectors and trappers continued to work the tributaries of the North Fork. Sometimes they chartered boats to take them upriver to their headquarters. In May 1921, The Kusko Times reported the recent departure of Charles and Victor Nystrom from McGrath in the motorboat Shamrock. The two men were transporting a number of passengers to Salmon River and Medfra, before continuing up the North Fork to a point said to be 350 miles from McGrath where their launch Red Wing had been left in the fall of 1920. 85/ About a month later, Herman Hinsche, a trapper whose cabin was located at the mouth of Swift Fork, descended the North Fork to McGrath in a boat. In late July, Arthur Berry returned Hinsche as well as Herman Hanson to their trapping headquarters. 86 Several weeks later, Jesse Yoder descended the North Fork from the Swift Fork in a launch (probably the Maple Leaf) with C. O. Peterson on board. Yoder subsequently ascended the North Fork, this time to bring Major John C. Gotwals of the Alaska Road Commission downriver to Medfra. 87/

In September 1922, Charles and Victor Nystrom again took the launch Red Wing to Herman Hinsche's headquarters, this time to search for Hinsche who failed to appear at McGrath as was expected. They found Hinsche's canoe and large boat in the water. Some believed that the trapper was lost, since he had left more than \$1,000 worth of furs with a friend and a strangely worded note. But he reappeared in McGrath in October 1922 with fellow trappers John Dunn and Bob Roberson. 88/

Boat traffic on the North Fork must have been fairly heavy, for in the early 1920's local residents began agitating for mail service on the route during the summer and winter seasons. At this time, residents of

McGrath, Takotna, and Ophir were receiving their mail by trail from Ruby during the winter, and by river from Holy Cross and Bethel during the summer. The editor of The Kusko Times, complaining about the poor mail service, suggested that the mail be routed from Nenana on the Government railroad to McGrath throughout the year. Mail carriers could use boats on the North Fork, Lake Minchumina, and Kantishna River in the summer; and they could use sleds on practically the same route in the winter. Referring to an unnamed authority on the summer route, the editor declared "that no impediments other than a few riffles at various distances apart, give any great hindrances to the successful navigation of the North Fork, at least until the portage point is reached." He then continued: "With a boat of proper draft, equipped with [an] engine to give speed averaging 10 miles an hour, the distance from McGrath to the portage would be accomplished in 40 hours." Allowing a day to cross the portage by horse or dog team, the editor argued that only seven days would be required to travel from McGrath to Nenana, a distance estimated to be 600 miles. 89/

In support of the editorial, the newspaper published a statement by Dave Clough, a roadhouse proprietor at McGrath. Clough claimed to know two men who crossed the divide from the Nowitna River to Lake Minchumina, and then portaged to the North Fork, which they descended to the Kuskokwim River. Theodore Von Frank, a well-known prospector on the Nixon Fork, also crossed the portage and went down the river, although he did so in the winter. As to the winter route, Clough reported that Berry, who knew the country well, had informed officials of the Post Office Department that the trail from McGrath to the railroad line was about 150 miles in distance, and that a number of men had traveled from Kantishna to McGrath in five days. 90/

The Alaska Road Commission was not unaware of the agitation. In August 1921, Major John C. Gotwals of the Commission ascended the Kantishna River and Muddy River to Lake Minchumina in a small steamboat, the Pioneer. With the assistance of K. B. Kammergard, a trapper and roadhouse proprietor on the lake, Gotwals crossed the portage, constructed a raft, and then floated down the North Fork. Near the close of the first day on the river, he encountered Sam Sanderson and a group of prospectors in a 26-foot boat and Arthur Berry in a motorboat. Gotwals borrowed Sanderson's boat, and by himself rowed it to the mouth of Swift Fork, where he found Herman Hinsche's headquarters. In the meantime, Arthur Berry transported Sanderson and presumably his party to the portage in his boat. Gotwals remained at Hinsche's cabin for two days before Jesse Yoder arrived in his launch, the Maple Leaf. He then accompanied Yoder downstream to Berry's Landing, where he took the steamboat Tana to McGrath, arriving there on September 3. Gotwals then took the launch Maple Leaf to Takotna, and subsequently followed the summer trails to Ophir and Ruby. 91/

Not long after Gotwals passed through the section, local residents circulated a petition for the establishment of mail service on the Nenana-McGrath summer route. Stating that motorboats could be used on

the entire route with the exception of the portage, the petitioners called for mail service on a bi-weekly basis during the months of June, July, August, and September. In addition, Robert S. Boyd, Chairman of the McGrath Commercial Club, wrote a letter dated November 5, 1921, to the Alaska Delegate to Congress, Dan Sutherland, requesting his assistance in establishing summer mail service on the the Nenana-McGrath route. Boyd claimed that mail carriers would be able to haul 1,000 pounds of mail on each trip. An Indian village was located near the portage, and a white trader at the foot of the lake. He noted as well that the steamboat Pioneer, carrying four horses and outfits for four men, had traveled from Nenana to Lake Minchumina in 1921 in a matter of four days. 92/

Little more was said about summer route until the Post Office Department established winter mail service on the Nenana - McGrath trail, and the Alaska Road Commission began improvement of the winter trail. Writing to The Kusko Times on January 12, 1925, W. J. Widman, a resident of Medfra since 1921, advocated the establishment of summer mail service on the Nenana - McGrath route, and in support of his argument noted the fact that Arthur Berry of Medfra "always seemed to be able to get to the portage whenever he had occasion to go there." 93/ In October 1924, for example, Berry transported a number of people up the North Fork to the portage. Leaving Medfra on October 5, Berry ascended the river in his launch with J. L. Berry, Archie Higgins, and a child named Bessie Higgins on board. Arriving at the portage on October 10, Arthur Berry escorted his passengers across the portage to Lake Minchumina, where they were met by K. B. Kammersgard. Leaving the lake on October 12, Kammersgard transported the passengers in his boat to Nenana where they arrived on October 15. The passengers then continued their journey to San Francisco by train and steamship. 94/ Later interviewing Arthur Berry, Widman learned that the water in the North Fork at the time of the trip was "pretty low," and that the trip would have been easier in a sternwheeler than in his propeller-driven launch.

In addition, Widman sent the newspaper a copy of a letter written by K. B. Kammersgard on January 3, 1925 in response to Widman's letter of inquiry dated December 14, 1924. Kammersgard stated that the portage was about 8.5 miles long, striking Lake Minchumina in its southwest corner. The trail was in poor condition, and thus should be relocated to a high, dry ridge where it would strike the lake in its northwest corner and reduce the distance by one-half mile to one mile. Kammersgard claimed that freight from Nenana could be landed at the portage for four cents a pound; and that he would transport passengers to Nenana for about \$200, depending upon the size of the party. One man and his board would be charged \$50. As concerns the route for the transportation of mail, Kammersgard wrote, "I believe that's the only route by which it can be landed in McGrath two times a month, if they want it." 95/

The people of McGrath and Takotna wanted it. The Kusko Times published the correspondence of Widman and Kammersgard; and letters were sent to H. H. Ross, the representative of the Fourth Division in the Territorial

Legislature, requesting his assistance. On March 12, 1925, Ross wrote to James G. Steese, president of the Alaska Road Commission, in regards to the possibility that the Commission survey the Minchumina Portage, and forwarded him letters from W. J. Widman, Peter McMullen, the Innoko Lumber Company, and the Schwabacher Hardware Company. Ross stated that it was his understanding that local inspectors of the Post Office Department desired to adopt the route, but could not do so until a survey had been made. Steese replied by letter dated March 13, informing Ross that a representative of the Commission was to examine the portage in the summer. 96/

In June 1925, the Commission announced that Major Lunsford E. Oliver, the Engineer Officer of the Commission, and Robert Sommers, a member of the Territorial road commission, were to inspect the portage, with a view to its improvement to road, trail, or tramway standard. They were also to investigate water conditions on the upper Kantishna River and the North Fork and determine the practicality of riverboat service on the streams. According to Steese, the Commission expected to improve the portage if Oliver's report was favorable and if the Post Office Department agreed to establish mail service on the route during the summer months. 97/

Oliver and Sommers made the trip from Nenana to McGrath in 6.5 days. They chartered a boat at Nenana to take them to Lake Minchumina, and on the North Fork side of the portage they met Joe Oates by previous arrangement. Oates took Oliver and Sommers in his launch to McGrath. Continuing to Takotna, Oliver and Sommers then took the summer trail to Iditarod where they took passage on a boat to Holy Cross. 98/

While in Takotna, Oliver refused to discuss his investigation of the route with local newspaper reporters. Evidently the Commission decided that the route was feasible, but would not improve the portage until the Post Office Department let a contract for summer mail service on the route. 99/ However, the department was at this time planning to use airplanes for the delivery of mail to communities on the upper Kuskokwim River. Mail service on the Minchumina Portage route was never instituted.

The introduction to airplanes as carriers of the mail was not entirely welcomed by local residents. On September 4, 1925 Jack Mutchler of Takotna wrote a letter to Alaska Delegate Dan Sutherland, expressing his belief that airplanes would not meet the local needs for mail service. He stated that the majority of local residents favored the adoption of the Lake Minchumina route for the delivery of mail on a bi-weekly basis during the open season. Once the mail service was established, perishable freight could be delivered at McGrath from four to six weeks earlier than presently possible. Also, mail carriers on the route would be in touch with the winter mail trail whenever the early freeze-up of the river ice occurred. Finally, the adoption of the route would tend to develop the country between McGrath and Nenana. As Mutchler put it, "Prospectors who want to go into that section at present are either compelled to buy or charter a gas boat, which you know isn't likely to happen. With a permanent route established as proposed, they could come and go at will." 100/

As airplanes became the general mode of travel between Fairbanks and Nenana and McGrath, boat traffic on the North Fork declined in frequency. The North Fork continued, however, to be the primary route of travel to hunting and trapping grounds. As late as 1937, Victor Nystrom was operating on the river. The Kusko Times reported in September of that year that Nystrom was headed to his trapping grounds on the North Fork in a boat. He carried as passengers two other trappers named George Harwood and Arnold Akers and their supplies. Both trappers were bound for Bill Hartzberg's trapping grounds. 101/

Local residents continue to travel on the North Fork in connection with hunting and trapping activities. However, only a few travel up the river as far as the mouth of the Swift Fork. In 1979, Diane Cudgel-Holmes contacted 12 individuals who had operated boats on the river. Five individuals had ascended the North Fork beyond the Swift Fork. In 1971, Ken T. Alt ascended the "slow and crooked" river as far as Little Hog Butte with a 24-foot boat and propeller unit. Miska Deaphon stated that he had ascended the river to the Minchumina Portage only twice in his lifetime. Deaphon Eluska, who has a winter home on the North Fork opposite the mouth of the Swift Fork, stated that he went to the Minchumina Portage and beyond once about 30 years ago in a poling boat. He said there were places where he had to line his boat through some shallow spots, but had no problem descending the river. He may have used a 30-foot poling boat, but now uses an 18-foot boat with a propeller unit. Dick Nikolai claimed that he goes hunting nearly every year on the North Fork upriver from Swift Fork; he usually does not go beyond the Chleca Lakes but says it is possible to go farther. Steve Nikolai has been to a cabin above the West Fork of the North Fork just for sightseeing, but not often. 102/

Swift Fork

Together with the North Fork of the Kuskokwim River, the Swift Fork has been the primary route of summer travel to Medfra and McGrath for residents of Telida Village. White prospectors and trappers may have ascended the river as far as the village in poling boats or launches; but there does not appear to be documentation of the journeys. The record indicates that canoes and riverboats have been used on the river.

In 1979, several people reported that they had traveled by boat on the Swift Fork and its tributaries. Ken T. Alt stated that in the fall of 1971, he ascended the Swift Fork to the mouth of Highpower Creek, and up that creek for a distance of about 20 miles, or to the eastern edge of T. 23 S., R. 30 E., K.R.M. He was using a 24-foot riverboat. Beyond the mouth of Highpower Creek, he said, one would need an airboat to ascend the Swift Fork. Nic Dennis, Deaphon Eluska, and Dick Nikolai stated that they also used the Swift Fork in boats to reach Telida Village. Eluska, who maintains a summer home at Telida, stated that the Swift Fork is shallow at times with sandbars and snags. Steve Nikolai stated that he has ascended the Swift Fork as far as the mouth of Highpower Creek in the fall to hunt. He stated that he has no difficulty ascending Highpower Creek to the mouth of Deep Creek where he fishes. He said that he goes there several times each year, and could go farther

if he wanted. Dick Nikolai also ascends the river as far as the mouth of Highpower Creek, above which point the Swift Fork is too shallow and swift. However, he stated that he ascended Highpower Creek to the mouth of Lonestar Creek in an 18-foot boat with a propeller unit. Above this point, the creek has sweepers in it. At the mouth of Lonestar Creek, the water in Highpower Creek is about two feet deep and the channel about 30 feet wide with a gravel bottom.

Both Dick Nikolai and Steve Nikolai reported that they have used Red Slough as a route of travel. Dick Nikolai stated that the slough was easy to navigate in his 18-foot boat; he has hunted along the entire length of the slough. Steve Nikolai stated that has used the slough a lot for hunting. He also uses it with the Swift Fork for round-trips to Telida. 103/

East Fork of the Kuskokwim River

Crossing the East Fork, or as it was then called, the Chedotlothno, on August 25, 1899, Lieutenant Herron believed the river to be navigable for small steamboats as far as the crossing, near the mouth of the Shisnona River (Slow Fork). 104/ While there is no specific mention of boat traffic on the East Fork in the record, we can assume that boat traffic did occur on the river given Herron's statement, the difficulty of overland travel, and the existence of settlements on the river.

Doubtless the East Fork was the primary route of summer travel to Medfra and McGrath for residents of the South and East Fork villages. In addition, there is evidence to support the view that the East Fork Roadhouse was supplied by boat from 1923 to about 1931, and possibly later. Roadhouse proprietors in the area generally relied upon boats to supply their establishments. This fact, in addition to the fact that the local newspapers noted the arrival and departure of the proprietors of the roadhouse only in the summer, makes it clear that the proprietor of the East Fork Roadhouse also used boats to haul provisions to his place of business. 105/

A few people continue to use the East Fork and tributaries for hunting. In 1926, Miska Deaphon traveled overland from Telida to the East Fork, built a skin boat, and descended the swift and rocky river. According to Nic Dennis, "everyone" in Nikolai Village has used the Slow Fork and apparently the East Fork. He has himself ascended the East Fork for many years, using a 30-foot wooden boat with a propeller unit, to about the northwest portion of T. 28 S., R. 23 E., K.R.M. He also has taken a motorboat up the Slow Fork for hunting moose as far as about the northcentral township line of T. 26 S., R. 28 E., K.R.M. Many villagers hunt to this point, although there is a log jam in the northwest part of Section 10, T. 26 S., R. 27 E., K.R.M. Bobby Esai, who has often traveled to Ann Alexia's cabin in the northcentral part of T. 28 S., R. 26 E., K.R.M., stated that some people ascend the Slow Fork. He has not himself gone up the Slow Fork, as it is too shallow and has too many channels with a soft bottom that would ruin the motor on his boat. Pete Gregory, who has a cabin in Section 4, T. 28 S., R. 26 E., K.R.M., said that he has

hunted on the East Fork to about the Slow Fork. Nic Petruska has a cabin in Section 21, T. 26 S., R. 27 E., K.R.M.; he stated that he goes to his cabin each fall and five miles farther to a log jam which has been there for a long time. He could go farther if the jam was not there. Jim Nikolai stated that he too used to ascend the East Fork and Slow Fork to hunt above Petruska's cabin, but the water is too shallow for his boat and big motor which he presently owns. Finally, Bill Woolard, who has a cabin near the base of the East Fork Hills (T. 28 S., R. 23 E., K.R.M.), also ascends the East Fork to his cabin.

Apparently, only a few people use the East Fork Slough. In 1979, Nic Alexia stated that he uses the slough in a 20-foot boat only when the water is high. Bill Woolard said he once ascended the slough in 1974 for a distance of about 10 miles when hunting. He apparently reached the northwest section of T. 28 S., R. 23 E., K.R.M.

Even fewer people have traveled on Tonzona River. According to Ray Collins, there are some people still alive who have floated down the river in skin boats. However, Nic Dennis states that people do not travel on the river. Nic Petruska states that a "Goog" Anderson once ascended the river in an airboat as far as Amos Lake in the Alaska Range. 106/

VII. ROADS AND TRAILS

For nearly two decades after the Klondike Gold Rush of 1897-98, interior Alaska was served by two primary transportation systems. During the short summer season, steamships from the ports of Seattle and San Francisco plied the waters of Bering Sea to Nome and St. Michael, where connections were made with inland navigation companies operating a fleet of steamboats on the Yukon River and its tributaries. Other steamships made their way through the Inside Passage to Skagway, the tidewater terminal of the White Pass and Yukon Railway which extended to Whitehorse, the head of steamboat navigation on the Yukon River. Being closer to the ports of Seattle and San Francisco, and accessible by water throughout the year, Skagway was one of the busiest ports in all of Alaska. The railroad operated the year-round, carrying freight to the warehouses at Whitehorse to await shipment downriver by steamboat to Fairbanks and other mining camps with the opening of navigation.

Despite its superior advantages over other routes to interior Alaska, the White Pass route was not a satisfactory or popular one. The large mining camps in interior Alaska and on Seward Peninsula had no ready means of access to Whitehorse during the winter, and thus were forced to wait until summer before receiving supplies and equipment so crucial for a successful mining operation during the short summer season. Great distances separated the mining camps from the railroad terminal, which made for high tariffs. Aside from these considerations, miners in Alaska were required to pay duties on goods crossing the International Boundary, thereby adding to the cost of mining.

During the Klondike Gold Rush and for several years thereafter, a great cry for an "all-American" route to interior Alaska was heard from the maritime and inland navigation companies, mining companies, and commercial organizations. The Government responded immediately by dispatching numerous Army and Geological Survey expeditions to Alaska to report on the natural and human resources, and water and land transportation routes. Following an investigation of Alaska conditions by one of its committees in 1903, Congress provided for the organization of a Board of Road Commissioners for Alaska, otherwise known as the Alaska Road Commission, to locate and construct roads and trails between unincorporated towns of a permanent nature, and to provide access to these communities from navigable streams or ice-free ports. Organized in 1905, the Alaska Road Commission was directed by Congress to give special attention to the improvement of the Valdez-Fairbanks Trail to wagon road standard. Once the road was constructed, it was believed, sufficient traffic would be generated to attract capital for the construction of a railroad from Valdez to Fairbanks, and ultimately to Nome.

Numerous railroad companies had been organized in the late 1890's and early 1900's, and some of them announced plans to construct a pioneer line from the ice-free ports of southern Alaska to the navigable waters of the Tanana and Yukon Rivers. By 1908, however, all but two of the strongest companies had failed. The Copper & Northwestern Railway,

backed by the powerful Guggenheim Brothers and the house of J.P. Morgan, was constructing a standard-gauge railroad from Cordova to copper mines on Chitina River. The Alaska Central Railway Company, which constructed a line from Seward to the head of Turnagain Arm before entering a receivership in early 1908, was being reorganized as the Alaska Northern Railway Company by powerful Canadian and English banking houses. The company proposed to complete the railroad to the Tanana River, and to construct a branch line to the head of Kuskokwim River at McGrath via one of the passes at the head of Yentna River.

At this time, the Alaska Road Commission, concentrating its funds on the improvement of the Valdez-Fairbanks Trail, was heavily under attack by numerous Alaska commercial organizations and local residents for neglecting the needs of their communities for roads and trails. The criticism from Nome was particularly loud and sharp. This town, the second-largest in interior Alaska and serving one of the most extensive gold fields in Alaska, demanded a winter outlet to southern Alaska ports, one shorter in distance than the Valdez-Fairbanks-Nome trail over which mail for Nome was routed. With the gold rushes to Ganes Creek and Ophir Creek in 1907-08, the prospectors on the upper Innoko River joined Nome in demanding a winter outlet to tidewater. Not unaware of the fact that the gold rushes signaled the development of the Kuskokwim River basin, and highly sensitive to demands for better mail service, the Alaska Road Commission looked to the Rainy Pass route as a potential transportation artery for interior Alaska.

RAINY PASS TRAIL

The decision of the Alaska Road Commission in 1909 to investigate the Rainy Pass route as a potential winter route was not fortuitous. The expeditions of Spurr in 1898, Herron in 1899, and Brooks in 1902, had resulted in favorable recommendations that the passes at the head of Yentna River were practicable for the location of roads and railroads. Even before the gold rush to Ganes Creek in 1907, a number of prospectors, hunters, and trappers had crossed the passes to the Kuskokwim River. Many more were to follow during the gold rushes to the upper Innoko River in 1907-08. The experience of the Odale party in crossing Rainy Pass in the winter of 1906-07, was probably a familiar one to other parties which made the journey in these years.

While in Cook Inlet during the summer of 1906, Tom Odale and Jack Clouse heard favorable reports about the Kuskokwim region, and decided to go there. In October they purchased a boat at Susitna Station and ascended the Yentna and Skwentna Rivers. On the headwaters of Skwentna River, they met two prospectors named Jim Ward and Mike Stagner, who decided to join the Odale party for the journey across the divide. Using wood from their boats to construct sleds, the men began the five-month journey to the headwaters of the South Fork of the Kuskokwim River by way of Rainy Pass. In early February, they established camp on a high bench covered with spruce trees on the east bank of the South Fork, several miles below the mouth of Post River. They remained in camp for several months, hunting and perhaps trapping, and in April built a 26-foot boat, six feet wide, from native timber. In May, the ice on the South Fork went out, and the men followed the ice down the river in their scow.

Upon reaching Nikolai Village, which Odale recalled was located about 20 miles above the confluence of the South and North Forks, they learned from the Indians that prospectors had discovered gold on Ganes Creek and that Peter McGrath had established a trading post at the mouth of the Takotna River. The Odale party rushed to the Takotna River, ascended that river to Berry's Landing (Takotna), and then crossed the portage to Ganes Creek.

For the remainder of the summer, the Odale party prospected on the upper Innoko River, freighted supplies on the Takotna River, and even participated in a small rush to the head of Nixon Fork. In the fall, disappointed with the district, they decided to return to Cook Inlet. Ascending the South Fork in the scow, and prospecting along the way, the Odale party towed their boat to a point within 10 miles of their campsite of the previous winter. They then built three sleds from the boat, and with the first major snowfall in November, began the long, arduous journey to the Susitna River. 1/

In the winter of 1907-08, the Alaska Road Commission expedition to Ophir was to take practically the same route as the Odale party. On January 31, 1908, the Commission expedition, consisting of Walter L. Goodwin, Ross J. Kinney, George Pulham, and Frank Jackson, departed Seward on two sleds. Following the line of the Alaska Central Railway to Glacier Creek on Turnagain Arm, the party crossed Crow Creek Pass to the headwaters of Eagle River, followed that river for some distance, then crossed the flats to Old Knik, thence to New Knik, where they exchanged their sleds for four Yukon sleds. The Goodwin party then went to Susitna Station, ascended the Susitna, Yentna, Skwentna, and Happy Rivers to Pass Creek, crossed Rainy Pass, and then went down Dalzell Creek and Tatina Rivers to the South Fork.

Reaching Tatina River, then known as Rohn River, in early March, the Goodwin party met two men named Powell and Ramar who were bound for Seward. The two men had left McGrath on February 21 and followed a trapper's trail for some distance before losing the trail. The men had been lost for 12 days, although one had taken the route to Seward before; they finally reached the South Fork at Farewell Mountain. The experience of these two men may have influenced Goodwin's decision to follow the South Fork to the main Kuskokwim River. From the mouth of Tatina River, the Goodwin expedition took their sleds down the glare ice of the South Fork for a distance of about 49 miles or to a point near the mouth of the Dillinger River. Goodwin was to describe this as the "dangerous part of the trip as the ice was so smooth and the wind so strong that the sleds were broadside on or ahead of the dogs much of the time and the many snags sticking through the ice caused us many 'tip-overs' but no serious accidents or breakage."

Continuing down or along the South Fork, the Goodwin party eventually found a small Indian camp on the river where the Little Tonzona River supposedly emptied. They found "Chief Nicholai" and two women at the camp. Nicholai guided the expedition across the "low, swampy tamarack and unmarked country" for about 20 miles to another Indian village called "Nicholomas," located on the Kuskokwim River opposite the mouth

of Big River. There they met a man named Wilson, who had just broken a trail from McGrath on snowshoes. Goodwin and his men followed Wilson's trail in the direction of Takotna Mountain through, as Goodwin described it, "sloughs, lakes, tamarack, and spruce swamps."

After spending a day at McGrath, the Goodwin party followed the Takotna River to Takotna, crossed the divide to Ganes Creek, and then went to Ophir Creek, where gold had been discovered only several weeks prior to their arrival. Goodwin and his men then traveled across country to Dishkaket on the Innoko River, thence to Kaiyuh Slough on the Yukon River. They then ascended the Yukon River to Kaltag, crossed Kaltag Portage to Unalakleet, and then continued to Nome, arriving there on April 5, 1908. According to Goodwin, the party required 66 days to travel the Seward-Nome trail, estimated to be 875 miles in distance.

In his report on the trip to the Alaska Road Commission, Goodwin judged the Rainy Pass route entirely practicable for winter travel. With the exception of 12 miles over Rainy Pass, the trail was located in timber throughout its length. The Commission could, however, expect to perform a considerable amount of work on the trail if it were to become a winter mail route "as it would be impracticable to follow the broad open river flood plains and valleys as was done by the expedition, on account of overflows and open water which would render the trail, impracticable except at the season of the winter when this expedition came through."

Nevertheless, Goodwin recommended against the adoption of the Rainy Pass route for winter mail service to Ganes Creek or Nome. The route traversed a vast, unexplored region, where game was scarce and settlements were few. A few prospectors had in fact taken the route to Seward, but at great risk and hardship. Goodwin estimated that some 20 men, disappointed with the strike on the upper Innoko River, left the Kuskokwim River basin by way of Rainy Pass during the early winter months. Some reached Susitna Station in a terrible condition, having traveled for 24 to 35 days without blankets or tents in the dead of winter. Until the route became a popular thoroughfare, and roadhouses were established along the winter trail, travel would not be safe. In Goodwin's view, the Rainy Pass route was not likely to come into general use until the Alaska Central Railway was completed and in operation, and the Susitna, Yentna, Kuskokwim, and Innoko districts had passed beyond the first stages of development. Unless the Innoko district was to develop into a major camp or a big strike was made on the route, the need to improve the Rainy Pass trail for winter travel was unlikely in the immediate future. 2/

The gold rushes to Iditarod in 1909 and 1910 was probably the single most important event that influenced the decision of the Alaska Road Commission to improve the Rainy Pass trail, and in 1909 ask Congress for \$50,000 for the project. As more than 1,000 people congregated on the Iditarod River and its tributaries, and the extensive low-grade placer field promised many years of mining, the need for mail service and a winter outlet to southern ports was readily apparent. Already large mining companies were moving into the district. And in 1910, the

powerful Northern Navigation Company established steamboat service on the Kuskokwim River, while its subsidiary, the Northern Commercial Company, established several trading posts on the river to supply mining camps on Tuluksak River, George River, and Takotna River.

The Iditarod gold camp and the Rainy Pass trail received a considerable amount of publicity in the Alaska and Pacific Coast press. For many writers, the Iditarod strike signaled the development of the Kuskokwim River basin, and the Rainy Pass trail was to figure importantly in that development as the Valdez-Fairbanks Trail had in the Fairbanks gold field. The articles of W.E. Priestley and D.H. Sleem in 1909 and 1911 in the Alaska-Yukon Magazine, a journal published in Seattle, are representative. 3/

In the winter of 1909-10, W.E. Priestley travelled by dogsled from the Yukon River to Ophir. Leaving Ophir on March 22, 1910, Priestley went to McGrath, and then ascended the Big River with an Indian guide named "Esi." He followed a tributary of the Big River to its head and found outcroppings of a very fine grade of coal. Priestley then returned to the Kuskokwim River and took a 30-mile winter trail to Nikolai Village, where he met the chief "Old Nikolai." The chief told Priestley that he had once traveled to the Susitna River, and that it would take "six sleeps" to reach the river. Priestley obtained a map from the Indian, and began the journey. He required more than a week to reach the Susitna River.

Priestley's account of his journey was published in July 1909, and reprinted in November 1911. Arguing that the trail was a practicable route of travel to Cook Inlet, Priestley claimed that it traversed a country with plentiful game and high potential for mineral resources. He noted, as examples, that the prospectors were on Big River and Hartman River, and that one Indian had killed 12 moose in two weeks. 4/

In November 1910, the Alaska-Yukon Magazine published D.H. Sleem's account of his journey up the Kuskokwim River. In the summer of 1910, Sleem, a surgeon employed by the Alaska Northern Railway, ascended the Kuskokwim River on the steamboat Quickstep. He described the river and its tributaries, the mineral resources, communities, and available transportation facilities. He too believed the Rainy Pass trail was destined to be the major winter route to the Innoko and Iditarod districts, and thus prepared a copyrighted map of the Kuskokwim River and Susitna River basins illustrating the course of the trail. 5/

Alive to the magnitude of the Iditarod rush and the extensive publicity given to the new camp, the Alaska Road Commission decided to improve the Rainy Pass trail. In the summer of 1910, Major Wilds Preston Richardson, president of the Alaska Road Commission, journeyed to Iditarod, and announced that Walter L. Goodwin was to perform work on the trail during the coming winter. 6/

In the meantime, Anton Eide of Seward ascended the Kuskokwim River on the steamboat Quickstep with instructions dated June 19, 1910 from the Commission to investigate trail routes from the Innoko district to Iditarod. Arriving at Takotna on July 25, Eide crossed the portage to

Ganes Creek, and then followed the high, bare ridges westward to Bonanza Creek and Iditarod, where he obtained passage on the steamboat Tana to Holy Cross on the Yukon River. Submitting a lengthy report to the Commission on August 18, 1910, Eide recommended the improvement of the gold rush trail from Takotna to Iditarod via Moore Creek and Bonanza Creek, and suggested several alternatives to the Goodwin survey of 1908. Where Goodwin had recommended a trail from Takotna to McGrath, Eide believed that a trail should be constructed from the mouth of Nixon Fork directly to the mouth of Big River passing Appel Mountain to the north. This trail, about 28 miles in length, would avoid the hills above McGrath and shorten the route by eight or 10 miles. From Berry's post on Big River, the trail would extend overland to Nikolai Village, near the mouth of Little Tonzona River. From Nixon Fork to Takotna, travellers could follow a horse trail constructed by the Kuskokwim Commercial Company in the fall of 1909. 7/

Anticipating the work of the Alaska Road Commission, residents of Ophir raised \$400 to hire a R.H. Brown to locate a trail from Ophir to Iditarod. Also, several people located and built roadhouses along the trail between Ophir and Cook Inlet. 8/

By all accounts, travel on the Rainy Pass trail during the winter of 1910-11 was heavy and fraught with hardships. It is not known at present as to which trail the prospectors followed from Takotna to Berry's post at the mouth of Big River. It is known, however, that from Big River they followed the trail to Nikolai Village, thence along the South Fork to Guggenheim Roadhouse, Snug Roadhouse, and finally "Big John's" Roadhouse at the mouth of Tatina River. From that point, they followed Tatina River and Dalzell Creek to Rainy Pass. 9/ There may have been more than one trail from Big River to the South Fork, however. A roadhouse proprietor at Takotna named A. J. Hosmer cut a trail from Takotna to Farewell Mountain. During the small gold rush to Hartman River in January 1911, some prospectors took a 35-mile from Berry's post directly to the steamboat May D., which was wintering on the South Fork. The diggings on Hartman River were said to be located 80 miles from the steamboat. 10/

In any case, many people who traveled over the Rainy Pass trail in the winter of 1910-11, complained that the trail was not suitable for travel due to the deep snow. In December 1910, Dave Clough and Billy Lodge left Ophir for Seward with a team of horses, but were forced to turn back at some point beyond Takotna. About the same time, Bob Griffis and several other men left Iditarod with a shipment of gold, valued at \$200,000, for the Miner's and Merchant's Bank. They arrived at Seward 37 days later, a feat that was reported in The Seattle Times on December 30, 1910. Griffis left Seward on January 6, and after 41 days on the trail finally reached Dikeman in the Iditarod district. He pronounced the trail a failure, claiming that he was forced to break the trail with snowshoes for his two dogteams through snow six to eight feet deep. 11/ Other parties voiced similar complaints. George Dreibelbis, for example, required 22 days on the trail. He had to break trail for his dogs for 10 days. He reported 75 men on the trail, perhaps more, all bound for Iditarod. 12/

In late 1910, the Alaska Road Commission notified Walter L. Goodwin to begin work on the location and construction of the Rainy Pass trail. Adopting Eide's recommendations of 1910, the Goodwin party cut a trail from the mouth of Nixon Fork to Crooked Creek. Crossing the Kuskokwim River, they then cut a two-mile trail across one of the big river bends and headed directly to Berry's post at the mouth of Big River. From Berry's post, the trail followed the Kuskokwim River for six miles, and then connected with the trail to Nikolai for two miles. At that point, the Goodwin crew cut a straight line through timber for 6.5 miles to an open stretch, which they followed for three miles to the mouth of Salmon River.

At the mouth of Salmon River, Goodwin lined up a tangent for Farewell Mountain, 37 miles distant. Reaching the mountain in late January, Goodwin described this section of the trail as follows:

...except for several short stretches around some hill or to cross a creek, the trail is all the time on this straight and narrow path. In the language of a native who chanced into camp a few days ago, it is "All same bullet." Thus the great unknown is conquered, and there is no question of the location of the trail, and not a foot of it is lost work or to be relocated. 13/

Goodwin claimed that horse teams could be used on the trail but for the deep snow. He also noted that several men had followed his party, locating roadhouse sites and had even begun building several roadhouses.

The Alaska Road Commission continued work on the Rainy Pass trail during the summer of 1911. Under the supervision of R.S. Giddings, a crew worked on the Rainy Pass-Flat section, clearing, staking, and widening the trail to eight feet. Completing the work in November 1911, the crew had improved the trail for double-ender traffic. 14/

In deciding to improve the Rainy Pass trail, the Alaska Road Commission hoped that the Post Office Department would adopt the trail as a winter mail route. The department agreed to accept bids for mail service on the route, among others, to Iditarod. In late 1911, however, the Post Office Department rejected all bids for mail contract service on the Rainy Pass trail. The trail could not compete with the Cordova-Fairbanks-Nulato-Iditarod route. 15/ Nevertheless, the department agreed to dispatch several consignments of second-class material over the Rainy Pass trail as an experiment, before making a final assessment of the route for mail service for Seward Peninsula and Kuskokwim points.

Although the Rainy Pass trail was not adopted as a mail route in 1911, it did become an important outlet for miners in the Innoko and Iditarod districts. As a number of roadhouses were established on the new trail, traffic on the trail was heavier than in earlier years. A.A. Zimmerman, for example, encountered about 100 people on the trail as he traveled from Knik to Iditarod, a journey that required 13 days actual travel. Two men who required 24 days of travel due to lack of snow and river overflows, met 150 men going to Cook Inlet. Another shipment of gold from Iditarod was taken over the trail. 16/ In January 1912, it was

reported that 174 people from Iditarod had passed over the trail, all en route to Seward. As travel on the trail was irregular, many people found the trail difficult for passage, due to deep snow. 17/

Nineteen-twelve was an important year in the history of Alaska. For it was on that year that Alaska became a Territory, and the Government tackled the question of Alaska transportation development. President Taft established the Alaska Railway Commission to recommend routes for trunkline railroads that would facilitate the economic development of the territory. In early 1913, the Railway Commission submitted its report to the President, recommending the extension of the Copper River & Northwestern Railway to Fairbanks and the Alaska Northern Railway from its terminus at Kern Creek to the head of navigation on the Kuskokwim River. President Taft was unable to secure action on the Commission's recommendations during the remaining days of his administration.

In 1914, however, President Wilson decided to send the Alaska Engineering Commission to Alaska to investigate the feasibility of constructing a railroad from the terminus of the Alaska Northern Railway to Fairbanks via the Susitna River valley. The Commission spent most of the summer of 1914 surveying railroads routes along the Susitna River, but did send one party to make a reconnaissance of the Susitna-Kuskokwim route. A well-known civil engineer, J.L. McPherson, was placed in charge of the party.

Leaving Cook Inlet on packhorses in late June 1914, the McPherson expedition followed the Susitna, Yentna, Skwentna, and Happy River valleys to the headwaters of latter stream in the Alaska Range. Crossing Rainy Pass on August 17, the party followed Tatina River to the South Fork. For several weeks, McPherson's men searched the mountains for passes, and eventually discovered Houston Pass. They then returned to the South Fork and followed that stream to Farewell Mountain. Turning westward, the expedition crossed the Pitka Divide to the Big River basin. Finding travel in the basin very difficult, the "tundra-covered marshes and overflowed creek valleys" working a great hardship on the horses, the men finally reached Bear Creek on September 5, requiring three days to travel 10 miles.

Inasmuch as his men and horses were exhausted, McPherson took advantage of high water in the creek to transport the outfits down the creek and Pitka Fork to the mouth of Salmon River in a collapsible canoe. His men followed overland with the horses. Finding the winter trail to the Kuskokwim River, "absolutely impassable for horses," which in any case were too weak to travel far, McPherson directed his men to construct three rafts, and with these the men and horses descended Pitka Fork, Big River, and Kuskokwim River to McGrath. They arrived at McGrath on September 14, having spent three days on the rafts. McPherson continued to Takotna, where he awaited the arrival of C.P. Dexter from Salmon River. Dexter had been assigned the task of surveying a direct line to McGrath. With Dexter's arrival on September 18, McPherson's party walked the winter trail to Flat and Iditarod. There they were able to obtain passage on a boat to St. Michael.

In his report to the Alaska Engineering Commission, McPherson described his expedition as one of extreme hardship. The terrain in the country was difficult to traverse, and weather conditions did not make for easier travel. Of the 98 days on the trail, they were subjected to 40 days of rain and eight days of heavy storms. As a result, the rivers and creeks were high throughout the entire distance, and during much of the time, the rivers and creeks were overflowing into the swamps. The Kuskokwim River itself was found to be 12 feet higher than ever known at that time of the year.

McPherson believed that a railroad could be constructed from the Susitna River basin to McGrath via Houston Pass. Construction costs would be high, especially on Houston Pass and over the seven-mile canyon on the upper South Fork. And the line would require a large number of bridges. On the other hand, both ends of the line were accessible by boat, permitting construction to proceed on both ends at the same time. If the railroad were constructed, it would be "ideal from a development standpoint as it supplements water transportation." 18/

McPherson's report and many others were sent to President Wilson for consideration. In early 1915, the President announced his selection of the Seward-Fairbanks route, and directed the Alaska Engineering Commission to begin construction of the Government railroad. In the early summer of 1915, the Commission established its base on Ship Creek, and began constructing port facilities. Hundreds of people rushed to Ship Creek, many in search of employment on the railroad, some to establish farms in the Susitna and Matanuska River valleys.

It would take the Alaska Engineering Commission eight years to build the railroad from Seward to Fairbanks. Before 1918, the Commission concentrated its forces in completing the Seward-Anchorage line. After 1918, the Commission began to push the end of steel northward up the Susitna River valley, while a small force constructed the railroad south from Nenana. As the end of steel inched northward, the Alaska Road Commission attempted to develop traffic for the railroad with the construction of feeder roads and trails. The construction of roads and trails from the Kuskokwim basin to the railroad was to become a major concern of the Road Commission.

During the early years of the railroad construction project, the Rainy Pass trail was the established route to the Kuskokwim River basin. In early January 1914, the Post Office Department awarded a four-year contract to H.E. Revell of Seward to deliver mail, not to exceed 475 pounds on each trip, to points between Seward and Iditarod. The contractor was to provide a 25-day service from November 1 to April 1 of each year, for which he was to receive \$25,000 annually. Revell subsequently went over the trail, and made arrangements for subcontracts. He announced that he would be able to provide a 20-day service, and that horses would be used to carry the mail from French Joe's Roadhouse to Iditarod. Horse feed would be delivered by boat on the Kuskokwim and Iditarod Rivers. 19/

In anticipation of the mail service, a number of improvements were made to the Rainy Pass trail. The Northern Commercial Company employed a

crew on the McGrath-Takotna trail, and a crew under Captain William E. Geiger cut a trail from McGrath toward the Salmon River Roadhouse, while another crew worked from that point toward McGrath. Finally, on October 21, 1914, mail carrier Robert Boyd departed Iditarod for Takotna with the first consignment of mail, intending to make the trip in 14 days. There another carrier would relay the mail to the next transfer point. In late November, the first mail over the Rainy Pass trail arrived at Iditarod. Joe Blanchell, proprietor of the Farewell Mountain Roadhouse, had the distinction of carrying the first consignment of mail over Rainy Pass. The first consignment consisted of 200 pounds of mail for Takotna, seven sacks for Iditarod, and two sacks for Discovery. 20/

During the summer of 1915, the mail carrier transported horse feed by boat to Salmon River and improved the trail between Takotna and French Joe's Roadhouse. A new trail was also staked on the high ridges between Iditarod and Ophir by Tom Boyd, a subcontractor who had found the old trail up the Takotna River valley often blocked by deep snow in the winter of 1914-15. 21/ In addition, H. E. Revell appealed to the Alaska Road Commission to improve certain stretches of the trail between Seward and Tatina River. The Rainy Pass-Tatina River section was particularly troublesome. Writing to Anton Eide of the Commission on July 9, 1915, Revell described the condition of the trail in general terms, observing that the trail from Tatina River to Iditarod was in fair shape. However, there was no trail from the head of Dalzell Creek to the mouth of Tatina River, a distance of 12 miles. Transmitting Revell's letter to the Commission's office at Valdez, Eide wrote that he had received many complaints about the trail in Dalzell Canyon, which had very steep benches and was exposed to snowslides. 22/ In January 1919, O.G. Herning, secretary of the Wasilla Commercial Club, referred numerous complaints about the trail to the Commission. He stated that there was a need to erect tripods in Rainy Pass, and to remove windfalls on the trail. Anton Eide wrote a letter to a roadhouse proprietor near Rainy Pass, requesting information about the condition of the trail and to submit a bid for furnishing and setting up tripods in the pass. The proprietor submitted a bid, but it is not presently known whether the Commission accepted it. 23/

In 1919, the Post Office Department decided to abandon the Rainy Pass trail as a winter mail route. Responding to an inquiry from Alaska Governor Thomas Riggs, Jr., a former member of the Alaska Engineering Commission, R. Knox of the Post Office Department explained that mail service on the trail was discontinued because of the almost impassable condition of the trail. For the past two years, the mail carriers encountered numerous obstacles on the trail, and no one but the mail contractor was keeping the trail open. As a result, the contractor was losing money. The department decided, therefore, to establish a route with the same frequency of service from Ruby on the Yukon River to Flat via McGrath. Mail was scheduled to be delivered at McGrath four days later than had been the case on the Rainy Pass route. Knox closed his letter with the advice that the department would consider reestablishment of the mail service on Rainy Pass route if the trail were improved. 24/

The decision of the Post Office Department to abandon the Rainy Pass trail for the Ruby-Ophir trail infuriated residents of Iditarod and McGrath, and some sent telegrams of protest to the Governor. Writing to the Iditarod Commercial Club, the McGrath Chamber of Commerce, and various individuals, Governor Riggs agreed that the discontinuation of mail service on the Rainy Pass route would discourage travel and prospecting in that section. However, he hoped that the Talkeetna-Cache Creek road would be ultimately extended to McGrath. In any case, Riggs assured the protesters, he and the Alaska Delegate to Congress would try to have the mail service on the Rainy Pass trail restored in another year. 25/ Evidently the Governor was unable to persuade officials of the department to reconsider their decision, for mail to McGrath, Takotna, and Iditarod was again routed by way of the Ruby-Ophir trail during the winter of 1920-21.

The introduction of dredges on Candle Creek and Yankee Creek in the late 1910's and early 1920's, and most important, the development of hard-rock mining in the Nixon Fork country, brought to the forefront the need for winter transportation facilities from the Kuskokwim basin to an ice-free port. Greatly dissatisfied with the mail service, residents of the Mt. McKinley, Innoko, and Iditarod districts agitated for the reestablishment of mail service on the Rainy Pass trail, and failing that the establishment of mail service, both in summer and winter, from the upper Kuskokwim River to Nenana on the nearly completed Government railroad. 26/

Now receiving increased appropriations as pressure mounted for the construction of feeders to the Government railroad, the Alaska Road Commission established a separate administrative district for the Kuskokwim River basin in 1921, and located its district headquarters at Takotna. This action was taken upon the advice of Major John C. Gotwals, who was sent to the area in the winter of 1920-21 to investigate recent developments in the Kuskokwim basin and to identify the need for roads and trails. Accompanied by Anton Eide and Leonhard Seppala, Major Gotwals took the Ruby-Ophir trail, and arrived at McGrath on February 7, 1921. Interviewed by a local newspaper reporter, Gotwals stated that it was the intention of the Commission to continue construction of the Takotna-Ophir wagon road, and ultimately extend it to McGrath. In addition, the Commission planned to maintain the winter trails, particularly the Rainy Pass trail, which was the shortest route to the Government railroad. Sometime in the future, the Commission planned to construct a summer road from McGrath to the railroad, but no decision had yet been made as to whether the road would go to Talkeetna via Rainy Pass or to Healy. While the road could not compete with the Kuskokwim River in the transportation of heavy freight, it would serve to stimulate mining activity in the Kuskokwim basin, as it would be passable throughout the year, and would with time serve to reduce freight rates in the Kuskokwim River. Until the road was constructed, the Rainy Pass trail would remain "the important line of travel to the upper Kuskokwim." 27/

Leaving McGrath by way of the Rainy Pass trail, Gotwals subsequently reported to Major James G. Steese, president of the Road Commission, that the trail was well located and in fair condition. He stated that

the roadhouse proprietors on the trail were greatly discouraged, and would close their businesses if mail service on the trail was not restored. In that event, the trail would become an impracticable line of travel. Observing that the present mail route to McGrath was unpopular, Gotwals recommended that Major Steese, who was then in Washington D.C., inform the Post Office Department of the situation, and that the Commission could promise to improve the Rainy Pass trail for travel. 28/

In the months that followed, officials of the Alaska Road Commission, Alaska Engineering Commission, and the Territory, petitioned the Post Office Department to restore mail service to the upper Kuskokwim basin by way of Rainy Pass. In June 1921, the department bowed to the pressure, and solicited bids for mail service to the basin over the trail, among others. In October 4, 1921, the department announced that Harry H. Stockman had been awarded a one-year contract to carry mail from Nancy on the Government railroad to McGrath, Takotna, Ophir, Iditarod, and Flat via the Rainy Pass trail. Stockman was to make the round trip on a weekly basis, and to carry each time no more than 400 pounds of mail. The contract period was to extend from November 1 to March 31. 29/

Once the Post Office Department reestablished the trail as a mail route, the Alaska Road Commission began to effect improvements to the Rainy Pass trail. In the fall of 1921, Walter W. Lukens went over the trail with a crew from McGrath to make repairs where necessary, and to assess the need for additional work. During the winter of 1921-22, the Commission erected a 12-mile telephone line between roadhouses near Rainy Pass so that travellers could be forewarned of trail conditions in Dalzell Canyon. And in the summer of 1922, the Commission awarded a contract to W.J. Davidson and R.R. Jones, proprietors of the Rhone River [Tatina River] Roadhouse, to cut a new trail in Dalzell Canyon, and to straighten the trail near Tatina River. 30/

Traffic on the Rainy Pass trail was considerable during the winter of 1921-22. According to the Road Commission, about 500 people used the trail. 31/ This figure was probably inflated. Elsewhere, the Commission reported that in the months January to April 1921, 193 people, 10 tons of freight, and 103 sleds passed Susitna on the trail. According to Owen Gray, who went over the trail in six days, the trail was in excellent condition. 32/

The Alaska Road Commission expected that the mail would be routed to the upper Kuskokwim River over the Rainy Pass trail in the winter of 1922-23, and therefore was not overly concerned when on June 22, 1922, the Post Office Department asked for bids for mail service to the area from Nancy, Healy, and Kobe. In 1921 and 1922, the Commission had sent several expeditions into the area to investigate possible trail routes from Nenana to McGrath via the Kantishna River valley, and did not plan to stake a trail until the winter of 1923-24. It was with great surprise, then, that the Commission learned in early September 1922 that the Post Office Department had just awarded the contract to E. Coke Hill to carry the mail from Nenana to McGrath, Takotna, and other points. According to the Alaska Delegate to Congress, Dan Sutherland, the

contract was let upon the recommendation of local postal inspectors for a one-year period, in order to test the practicality of the route. 33/

The Alaska Road Commission, the Territory, and various commercial organizations protested the decision of the Post Office Department in the strongest terms. Writing to Alaska Governor Scott Bone on September 25, 1922, Major Gotwals stated that the Commission expected the department to use the Rainy Pass route for the winter of 1922-23 at least. The Commission had informed the local postal inspectors of a number of improvements being made on Rainy Pass and that every measure was being taken to maintain the trail until another trail could be located and constructed from Nenana to McGrath in the winter of 1923-24. The Commission needed time to explore alternative routes, to determine climatic conditions, and to cut the trail in a deliberate manner. Time was also needed by the roadhouse proprietors on the Rainy Pass trail to relocate their businesses to the Nenana-McGrath trail. With the mail contractor breaking trail on the Nanana-McGrath route, the Kuskokwim basin would have two winter outlets, neither of them properly supported. The Governor agreed with Gotwals, and personally intervened in the controversy, but to no avail. 34/

The mail contractor, E. Coke Hill, successfully located a winter trail from Nenana to McGrath in the winter of 1922-23. The Alaska Road Commission subsequently moved into the field, and made a number of improvements to the trail, along which a number of roadhouses were quickly established. Travel conditions on the Nenana-McGrath trail were far better than on the Rainy Pass trail, so that in the summer of 1923, E. Coke Hill was able to win a three-year contract from the Post Office Department for a weekly mail service from Nenana to Flat. 35/

Once the mail service was diverted to the Nenana-McGrath trail, the Rainy Pass trail quickly fell into disuse as a general route of travel to Cook Inlet. Roadhouses along the trail were abandoned, the cabins becoming shelter cabins or winter homes of hunters, trappers, and prospectors. Some people doubtless crossed Rainy Pass in later years, but the trail was for all practical purposes abandoned.

In later years, the Rainy Pass route became a major air transportation corridor between Anchorage and McGrath. In the early 1940's, the Civil Aeronautics Authority established Farewell Station, and transported fuel by tractor to the station from Pitka Fork, presumably on the old Rainy Pass trail. Since 1973, the trail has been used by participants in the annual Iditarod Sled Dog Race from Anchorage to Nome. In recognition of its historical significance, the trail was formally designated in 1978 as a National Historic Trail, to be managed jointly by various Federal and State government agencies.

During the summers of 1976 and 1977, the Bureau of Land Management conducted low-level aerial surveys of the trail. According to one report, much of the trail from Rainy Pass to Takotna is visible. The section in the canyon of the South Fork is obscure. The trail from Pioneer Roadhouse to Salmon River is quite visible, perhaps as a result of tractor and snowmobile traffic over the years. Between Salmon River and McGrath, the trail is obscure. 36/

NENANA-MCGRATH TRAIL

Before the winter mail trail was adopted in 1922, the Nenana-McGrath route had attracted some attention as a possible route for summer and winter travel between the Tanana and Kuskokwim Rivers. Observing the country from the headwaters of the South Fork in 1898, Josiah Edward Spurr wrote, "The divide between the upper Kuskokwim and the lower Tanana consists of low mountains which offer few obstacles; indeed, a native route to the Kuskokwim is by way of the Tocat River, which enters the Lower Tanana and which communicates with a tributary of the Kuskokwim. He believed it probable that a wagon road or railroad across this divide could be easily located and constructed. 37/

In the winter of 1899-1900, Lieutenant Joseph S. Herron and his men learned from the Indians of Telida Village the location of the summer portage from Lake Minchumina to the North Fork of the Kuskokwim River, and the winter trail from Telida Village to Coschaget on the Tanana River. Two years later, the expedition of Alfred Hulse Brooks followed the foothills of the Alaska Range from Rainy Pass into the Tanana River valley. Both Herron and Brooks confirmed Spurr's suspicions that practicable routes for summer and winter travel between the Tanana and Kuskokwim Rivers existed.

Following the various gold rushes to the Kantishna and Kuskokwim Rivers in 1900's, the Minchumina Portage became an important summer route of travel. In contrast, the winter route was seldom traveled, most prospectors in the Tanana and Yukon River valleys preferring the shorter winter trails leading directly to Ophir and Iditarod. Only a few people were willing to traverse the largely unexplored area between the North Fork and the Tanana River. In the winter of 1910-11, Hudson Stuck, an Episcopalian missionary, blazed a trail from Lake Minchumina to Takotna in 22 days, visiting several Indian villages en route. He repeated the journey in the winter of 1914-15. 38/

While other men may have taken the Nenana-McGrath winter route in the 1910's, it was not until the early 1920's that serious consideration was given to the route as potential thoroughfare. As construction of the Government railroad neared completion, residents of Iditarod, Ophir, Takotna, and McGrath, greatly dissatisfied with their mail service, suggested that the mail be routed from Nenana to McGrath. During the summer months, mail could be transported up the Tanana and Kantishna Rivers to Lake Minchumina by steamboat, carried across the Minchumina Portage by horse, and then sent down the North Fork to McGrath by launch. During the winter months, mail carriers could take one of two routes to Nenana. According to The Kusko Times, the local newspaper, one trail led from McGrath to the mines on Nixon Fork, thence in a northeast direction to Kantishna, connecting there with a sled road to the railroad. Another route was that taken by Thomas P. Aitken, who hired Indians to guide him from Big River to Birch Creek, a tributary of the Kantishna River. According to one of his Indian guides, Aitken reached his destination in six days. Dave Clough, a long-time resident of the area, reported that J. W. Berry, who knew the country well, informed the Post Office Department that the trail was about 150 miles in distance, and that a number of men had traveled from Kantishna to McGrath in five days. 39/

Visiting McGrath in early 1921, Major Gotwals, the Engineer Officer on the Alaska Road Commission, announced the Commission's plans to improve the Rainy Pass trail, it being the shortest and most important route to the upper Kuskokwim River, and to press for the restoration of the mail service on the trail. Gotwals had little to say about the Nenana-McGrath route, except that the Commission intended to investigate it, among others, in connection with plans for a winter road to McGrath. The Commission was considering Talkeetna, Healy, and Kantishna as termini for such a road. 40/

With the restoration of mail service on the Rainy Pass trail, the Commission sent several expeditions to investigate the Nenana-McGrath route. In the summer of 1921, Major Gotwals ascended the Kantishna River to Lake Minchumina, crossed the portage to the North Fork, and descended that stream to McGrath. In January 1922, Hawley W. Sterling of the Road Commission left Nenana for Berry's Landing (Medfra) with his wife, intending to explore and map the country, and to locate winter trail routes. Erecting shelter tents along the way, Sterling was only able to reach Telida Village with much difficulty, having to break trail from Moose Creek, a tributary of the Kantishna River, to the village. Sterling returned to Nenana, reporting favorably on the route as the divides on the trail were very low. 41/

The Road Commission intended to continue its investigations in the winter of 1922-23, and to begin trail construction in the following winter season. However, the Post Office Department forced the Commission to revise its schedule when an emergency contract was let to E. Coke Hill to carry the mail from Kobe to Flat. Hill's contract called for a weekly service from November 1, 1922 to April 1923.

When awarded the contract, E. Coke Hill, a former assistant attorney at Fairbanks and a future district judge, had never been over the Nenana-McGrath trail. It is likely, however, that he had learned something about the location and condition of the trail from someone who had been on the trail, perhaps from the engineer, Livingston Wernecke, or the naturalist, Olaus J. Murie, both of whom went over the trail at different times in March 1922. 42/

Hill planned to start the mail carriers at Kobe and Flat at the same time. In early November 1922, Chester Brink left Flat for Big River with about 100 pounds of mail. He continued to Nikolai Village, where he expected to meet the carrier, Charles E. Armour, from Kobe. However, Armour never arrived, having lost the trail somewhere on Lake Minchumina. E. Coke Hill personally carried the second lot of mail from Kobe to Big River, arriving there on December 4. He then went to McGrath, returning to Big River on the same day to start the Indian drivers on the trail with the accumulated mail and a gold shipment valued at \$200,000.

Interviewed by The Kusko Times while in McGrath, Hill described the Nenana-McGrath trail as entirely practicable for the transportation of mail and freight. He said, "There is no stretch of over 21 miles without a cabin, cooking stove, and cooking utensils, and at least at times occupied by natives, except between Telida and Lake Minchumina." Principal stops on the trail included New Telida, Slow Fork, East Fork,

Nikolai, and Big River, all of which had roadhouse accommodations. As concerns Armour's failure to reach Nikolai Village, Hill explained that he had safely reached Lake Minchumina, but was unable to locate the trail to Telida. Most of the Indians on the lake were hunting in the mountains, and those that remained were preparing for hunting trips as well. Armour was thus not able to find anyone to guide him to Telida. However, Hill located an excellent trail to the village, and did not foresee any additional problems in delivering the mail in the future. 43/

Once the mail carrier broke the trail, many people began to go over it. The records of the Alaska Road Commission indicate that as many as 650 people may have gone over the trail during the winter of 1922-23. In the period November to December, 1922, more than 100 people in as many sleds transported about 70 tons over the trail. One man named M.A. "Mike" O'Malley traveled from Big River to Kobe in 6.5 days, and described the trail as a "boulevard." 44/

In view of the heavy traffic on the trail, the Alaska Road Commission immediately sent crews into the field to make improvements where necessary. In Seattle, Major Gotwals declared on December 11, 1922 that the Kuskokwim valley would be opened by spring with a road from McGrath to Kobe. 45/ Sam Sanderson was placed in charge of the work. Working from Kobe, Sanderson and a crew of about 10 men slashed a trail, eight feet wide, as far as New Telida. In February 1923, Sanderson went over the trail as far as McGrath, measuring distances with a cyclometer attached to his dogsled. 46/

In the following winter, the Commission concentrated its forces on the trail from New Telida southward. The trail was cut along the course of the East Fork, thence directly to Medfra. A new trail was constructed from McGrath to the north side of Appel Mountain, thence up the valley of Crooked Creek before crossing a low ridge to Medfra. Completed in December 1923 by Ross J. Kinney and a 10-man crew, the trail was suitable for bobsleds drawn by four-horse teams. From Medfra, the trail followed the North Fork for 2.5 miles, crossed the North Fork, and then followed the flats south of the East Fork to Telida. Crossing few rivers, the trail was located mostly in timber. The old trail from Big River to Medfra, a distance of 12 miles, was also improved, the Commission forces removing windfalls, widening the trail, and setting tripods. One man was employed for about a month in improving the trail from Big River to the East Fork and eastward. 47/

In early 1923, the Post Office Department again solicited bids for the mail contract to the upper Kuskokwim River from Nancy, Kobe, or Nenana on the Government railroad. The contract was awarded to E. Coke Hill, who agreed to provide weekly service from Nenana to Flat for three years, November 1, 1923 to April 3, 1926, at a rate of \$1,022 per round trip. Using five carriers in a relay system, Hill adopted the new trail constructed by the Alaska Road Commission from the East Fork to Medfra and McGrath. According to Fairbanks Daily News-Miner, Hill was able to reduce the time for each trip by one or two days, and carried nearly twice as much weight over the previous service. While the East Fork cut-off to McGrath became the established route for the mail carriers, the older trail to McGrath by way of Nikolai Village and Big River continued to be used by many travellers. 48/

Until 1930 when the Post Office Department awarded the mail contract to an airline company, traffic on the Nenana-McGrath trail was heavy. The records of the Alaska Road Commission indicate that between 350 and 500 people annually traveled over the trail in the years 1925 to 1930. Between 30 and 40 tons of freight were transported annually over the trail during the same time period. Much of this traffic was probably related to the mail service. For the months January to December 1931, the Alaska Road Commission estimated that only 47 people and 38 sleds passed Nikolai Village on the McGrath-Telida trail. 49/

Like the Rainy Pass trail, the Nenana-McGrath trail was gradually abandoned. A few prospectors, hunters, and trappers continued to use sections of the trail; but it is doubtful if anyone ever traveled the entire length of the trail after the mail service was suspended, most people preferring to use airplanes to travel in and out of the basin. Not all people in the upper Kuskokwim basin welcomed the introduction of airplanes as a mode of transportation. In 1933, some residents of the upper Kuskokwim basin circulated a petition, which was to be sent to the Alaska Delegate to Congress Anthony J. Diamond, for the reestablishment of the Nenana-McGrath trail as a winter mail route. The petitioners argued that the mail carriers, by keeping the trails open for travel, had played an important role in developing the country. Now that the mail service was suspended, trappers and prospectors were forced to break trails for many miles; roadhouse proprietors were forced to abandon their businesses; the Indians, who had sold fish for dog feed were left without a means of livelihood; the prospectors and trappers along the trail did not receive mail for many months; and finally, all revenue received from the mail contracts was circulated in the district, which was not the case with the airline companies. 50/ Mail service on the trail was not reestablished; and with time, the people in the upper Kuskokwim basin adjusted to the fact that the day of the dogsled was over and that of the airplane was just beginning.

If people in the Mt. McKinley and Innoko districts was dependent upon the Rainy Pass and Nenana-McGrath trails for access to southern Alaska ports during the winter months, they were even more dependent upon the Kuskokwim River for the transportation of supplies, equipment, and mail during the summer months. With the opening of navigation, steamboats pushed heavily loaded barges up the Kuskokwim River to McGrath, Takotna, and Medfra, where connections were made with a system of roads and trails to various communities and mining operations in the upper Kuskokwim basin and on the Innoko River. Providing year-round access to the Kuskokwim River, the Takotna-Ophir road, the Sterling Landing-Takotna road, and the Medfra-Nixon road served the principal mining operations in the area.

TAKOTNA-OPHIR ROAD

During the gold rushes to Ganes Creek in 1906 and Ophir Creek in 1907, many stampedeers in the Kuskokwim basin ascended the Kuskokwim River to the Takotna River and up that stream a considerable distance before crossing low divides to the headwaters of the Innoko River. When, in 1908, Alfred G. Maddren of the Geological Survey visited the district,

he found that the Kuskokwim Commercial Company had already established two trading posts on the Takotna River, each post marking the head of navigation for certain types of boats on the river and both commanding the trails to the new diggings. One post was located near the mouth of Big Creek, the head of navigation for poling boats. At that point, travellers followed a 12-mile trail across a divide to Glacier Gulch and Ganes Creek. The other post was located near present-day Takotna, the head of navigation for small steamboats and launches. The post marked the beginning of a 22-mile trail across a lower divide to the mouth of Ganes Creek. Both trails were suitable for the transportation of supplies by man or horse in the summer, or by sled in the winter.

In a careful, thorough analysis of the relative merits of the Yukon and Kuskokwim summer routes to the upper Innoko River, Maddren concluded that the Kuskokwim River was destined to become the principal route for the transportation of freight to the Innoko district. With a view to reducing freight transportation rates, Maddren recommended the construction of a wagon road from some point on the lower Takotna River, 15 to 25 miles above its mouth, to Takotna and the mouth of Ganes Creek. Steamboats operating on the Kuskokwim River could then ascend the Takotna River to the terminus of the wagon road, where freight could be discharged for transport over the road at any time of the year to Ganes Creek and Ophir. Maddren estimated the length of the road to be 30 to 35 miles. 51/

The Kuskokwim Commercial Company evidently came to the same conclusion, for in the fall of 1909, the company constructed a 22-mile sled road, 20 feet wide, from Takotna to Ophir, as well as an 18-mile winter trail from the mouth of Nixon Fork to Takotna which was suitable for double horse teams. In addition, a dogsled trail was brushed out from McGrath to Takotna, 20 miles distant. Visiting Takotna in the summer of 1910 to investigate trail routes from McGrath to Iditarod, Anton Eide of the Alaska Road Commission recommended inclusion of the Nixon Fork-Takotna trail and the Takotna-Iditarod trail, which extended up the Takotna River valley, in the proposed Seward-Iditarod trail. He described the Nixon Fork-Takotna trail, which had been used heavily in the winter of 1909-10, as being located in small timber, following open places and sloughs whenever possible. The trail was on level ground, which was very wet in summer. The Takotna-Ophir sled road followed the summer pack trail for only three miles out of Takotna, before the latter swung off the road and followed the high, bare ridges to Ophir. In order to shorten the length of the Rainy Pass trail and to avoid the high hills above McGrath, Eide also recommended the construction of a trail from Nixon Fork to Big River passing to the north of Appel Mountain. 52/

The Alaska Road Commission subsequently performed a great deal of work on the Nixon Fork-Takotna trail and the Takotna-Iditarod trail, both of which were incorporated into the Rainy Pass mail trail. Many people and a great deal of freight went over the Nixon Fork-Takotna trail in these years, as the Kuskokwim Commercial Company and Northern Commercial Company sledged freight to Takotna, thence over the divide to Ophir. Beginning in 1915, mail carriers also used the trail to Ophir. Until that date the mail carriers used the Takotna-Iditarod trail but upon finding that that trail was subject to deep snows, they decided to adopt

the Ophir -Iditarod trail, which was originally located and constructed in the fall of 1910 on the high ridges and was suitable for year-round travel.

With nearly all traffic channeled into the Nixon Fork-Ophir route, it was only a matter of time before residents began appealing to the Alaska Road Commission for improvement of the trail. The spark was apparently Major Wilds P. Richardson's announcement in 1916 that the Alaska Road Commission was considering the construction of a wagon road from Ruby on the Yukon River to Ophir and Takotna, thence to Anchorage via Rainy Pass. 53/ In addition, mining operators prepared to introduce dredges into the Innoko district which required the construction of wagon or sled roads. In the winter of 1916-17, residents of Ophir circulated a petition to the Governor of Alaska, calling for the improvement of the Takotna-Ophir sled road to wagon road standard, and for the staking of the Takotna-Ophir-Iditarod trail. The petitioners stated that miners in the Innoko district relied mainly upon steamboats on the Takotna River to transport their supplies to Takotna. The supplies were then taken over the divide by packhorse to Ophir at an average cost of 10 cents per pound. Noting that the road would eventually be incorporated in the Ruby-Anchorage road, the petitioners estimated that a year-round road from Takotna to Ophir would cost about \$20,000 to construct. Wilbur F. Green, the U.S. Commissioner at Takotna, sent the petition to Governor J.F.A. Strong, who once resided at Iditarod, adding that a road should also be constructed from the Kuskokwim River to Candle Creek, as the Kimbal Flume Dredging Company planned to transport a dredge over the route to Yankee Creek in the spring of 1917. 54/

The petition found a ready response. In 1917, the Territorial Road Commission performed some work on the Candle Creek road; and in July of that year, the Alaska Road Commission sent R.S. Giddings, then at Ruby, to Ophir in order to investigate the proposed Takotna-Ophir road project. According to a local newspaper, the Alaska Road Commission had set aside \$20,000 for the project. This report was probably based upon rumors, for Commission records do not indicate any expenditures on the project prior to World War I. 55/

After the war, however, the Alaska Road Commission established a separate administrative district for the Kuskokwim basin with district headquarters at Takotna, and made the Takotna-Ophir road its most important construction project in the district. In the spring of 1920, the Territory and the Road Commission agreed to allot \$8,000 and \$22,000, respectively, to the project, with the latter agency directing the work. Equipment was ordered from Seattle, and sent to Takotna on the first steamboat into the district. By June 1920, work was well underway. 56/ During the season of 1920, the Commission constructed a winter trail along the wagon road survey on the Innoko side of the divide, and performed some work on the Nixon Fork-Takotna trail in order to facilitate the transporting of freight in the winter. Due to a labor shortage, the Commission was only able to clear, grub, and grade four miles of the Takotna-Ophir road. 57/

Each year the Commission allotted additional funds to the project. By late August 1923, the road had been practically completed to Yankee

Creek, a distance of 11 miles from Takotna. For the next several years, work continued on the road on the Innoko side of the divide, as well as on several branches to mining operations. The road was finally completed in the season of 1926. 58/

Even before the road was completed, mining operators in the Innoko district were using the road to transport heavy equipment and fuel to Yankee, Ganes, and Little Creeks. In the summer of 1923, the Guinan and Ames Dredging Corporation shipped dredge material to Takotna by boat, and in the following winter transported the dredge from Takotna to Ganes Creek by team. 59/ The Innoko Dredging Company also transported a dredge over the road in the winter of 1922-23. 60/ The dredging companies generally used the road during the winter months, but in 1925, they were prepared to transport supplies and equipment over the road during the summer. In 1925, Ross J. Kinney of the Commission reported to his supervisor that Frank Joaquin, who had leased the Innoko Dredging Company's dredge on Ganes Creek, planned to move his supplies over the road next summer instead of during the winter as had been done previously. 61/

For a few years after 1926, the Takotna-Ophir sled road, which paralleled the wagon road as far as the summit of the divide, continued to be heavily used. By 1928, however, the Alaska Road Commission had placed a gravel surface on the entire length of the wagon road, making it suitable for the passage of trucks and automobiles. As the following table illustrates, the wagon road was subject to heavy traffic.

TABLE No. 1.--TRAFFIC CENSUS, TAKOTNA-OPHIR ROAD, 1925-1930

	<u>1925*</u>	<u>1926</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>
Passengers	267	516	1220	1278	1298
Automobiles	89	212	183	285	273
Wagons	36	87	40	15	45
Sleds			432	542	603
Horses	54				
Tonnage	70	245	255	320	246

*June-September

As construction of the Takotna-Ophir wagon road neared completion, local residents began to appeal for an extension of the road to the mouth of Nixon Fork, and ultimately to McGrath. Favoring the proposed extension, the editor of the The Kusko Times observed that the low stages of water in the Takotna River prevented the larger power boats from reaching Takotna. Operators of the three dredges in the Innoko district were thus forced to ship oil from Nixon Fork to Takotna in small boats at high rates for many weeks. If the road were constructed to Nixon Fork, a distance of about 16 miles, freight could be transported to Takotna without delay. Freight rates on the road would be somewhat higher than the water haul, but, the editor argued, they would be "by no means as high as that by small craft carrying only a few hundred pounds and unable to take care of the demands." 62/

The Road Commission had made plans as early as 1921 to construct a road from Nixon Fork to Takotna once the Takotna-Ophir road was completed. In 1923 or 1924, a wagon road (1.5 miles) was constructed or improved from Takotna to a landing place on the river for steamboats at low water stages. The landing was located about four miles by river below Takotna. 63/ Little or nothing was subsequently done to extend the road to Nixon Fork.

Whenever the water in the Takotna River was too low for boat traffic, local residents appealed to the Commission to construct a road to Nixon Fork. In 1929, the Commission received a petition dated July 10, from local residents appealing for the construction of the road. Acknowledging receipt of the petition, Malcolm Elliott expressed his opinion that the road was worthy of consideration, but the Commission lacked the funds to undertake the project. 64/

In the summer of 1933, water in the Takotna River was again abnormally low, and local residents sent another petition to the Commission, this time calling for the construction of a road from McGrath to Takotna. John B. Mertie, Jr., of the Geological Survey was working in the district at that time, and observed that many people were forced to freight supplies by airplane between McGrath and Takotna at an average cost of \$25 per ton. From Takotna the freight was moved by truck to Ophir at \$25 per ton, and from Takotna to the head of Ganes Creek at \$30 a ton. Most travelers bound for Ophir took an airplane to Takotna, and continued by automobile to Ophir as the aviation field at Ophir was in poor condition. Mertie noted that some mail was also taken to Takotna and Ophir by the same means. 65/

On August 24, 1933, Fred J. Spach, district superintendent of the Alaska Road Commission, sent the petition to his supervisor in Juneau, advising him that low water in the Takotna River forced many people to transport foodstuffs from McGrath to Takotna by airplane at a cost of \$60 to \$80 a ton, and that the petition had been signed by 141 people, or nearly every adult at McGrath, Takotna, Ophir, and nearby creeks. Spach indicated that he was in favor of the project, and proposed to make a reconnaissance of a route from Takotna to Nixon Fork, where the river was always navigable for the steamboat Tana. Ike P. Taylor, president of the Alaska Road Commission, endorsed the project, and subsequently wrote a letter to the petitioners, which was published in The Kusko Times, stating that an estimate of the construction costs of the road had been included in the Governor's report to the Public Works Administration for additional funds. 66/

The proposed Takotna-Nixon Fork road was on the approved list of construction projects for several years. Receiving another petition dated June 26, 1936, calling for the construction of the road, Acting Governor Edward W. Griffin replied that the Territory had insufficient funds for the project. 67/ One year later, Frank Speljack, a signer of the 1936 petition, wrote an article for The Kusko Times, arguing the need for a road from Takotna to Nixon Fork as well as a road from Takotna to McGrath via Candle Creek. He stated that the present means of transporting freight from McGrath to Takotna was "exceedingly high and undependable," as the Takotna River was "unnavigable at low water"

and the transportation of freight over the winter trail was "slow and unsatisfactory." "In fact," he wrote, "the bulk of mining machining cannot be transported that way but has to lay in McGrath until such time as the water level is suitable for safe navigation. Sometimes this wait drags into months and by the time the equipment lands at its point of destination, the season is nearly gone and another year is lost along with the freight which costs around \$75 a ton." Until the Innoko district was linked by a road to the Kuskokwim River, mining activities in the district would be "seriously handicapped." 68/

In the spring of 1937, Federal relief funds amounting to \$30,000 were finally allotted for the proposed Nixon Fork-Takotna road. The Alaska Road Commission intended to construct a summer tractor road during the season of 1937. By July 1937, Commission forces had cleared the right-of-way from Takotna to Shorty Creek and a short distance beyond the creek, for a total distance of 6.5 miles. Inspecting the work, Hawley Sterling, the assistant chief engineer, wrote that the construction supplies were brought up the river from McGrath and landed at the mouth of Shorty Creek, about 20 river miles below Takotna, and then hauled by tractor about 1.5 miles to a construction camp on Shorty Creek. Sterling found that the work was heavier than expected, and informed his supervisor that the allotment would not last the full season, at least if the Commission retained its force of 40 men on the project. He thus recommended that the Commission attempt to secure additional funds from the Works Progress Administration or the Territory, or reduce the size of the crew. Ike P. Taylor, the chief engineer, responded to Taylor's letter with instructions to reduce the size of the crew, and to construct as many miles of a good tractor road as was possible with the available funds. 69/

Evidently the Alaska Road Commission continued to seek additional funds from the Territory for the Nixon Fork-Takotna road. In July 1938, Ike P. Taylor wrote to Fred J. Spach that the Territory would probably allot funds for work on the road, and that he was arranging for shipment of trucks and other equipment from Bethel to McGrath on the last boat ascending the Kuskokwim River for that season. However, Taylor also instructed Spach to investigate the possibility of extending the old road from Candle Creek to Takotna, since it might be a less expensive undertaking than the Takotna-Nixon Fork road. 70/ Spach inspected the route, and recommended its adoption. In the summer of 1938, work ceased on the Nixon Fork-Takotna road, and the Commission force began the work of extending the old road from Candle Creek to Takotna.

STERLING LANDING-TAKOTNA ROAD

Several years after the discovery of gold on Candle Creek, certain miners on the upper Innoko River proposed to construct a road from the Kuskokwim River to upper Yankee Creek via Candle Creek, in order to transport dredges to Ganes Creek, Yankee Creek, and Candle Creek. In 1917, Wilbur F. Green, the U.S. Commissioner at Takotna, appealed to Governor J.F.A. Strong for the Territory to assist the Flume Dredging Company in the construction of a road from the Kuskokwim River to Yankee Creek. Planning to place a dredge on Yankee Creek, the company intended

to construct six miles of road in the spring. Apparently the road was to be later extended to make connections with a wagon road constructed by Archie Higgins and A. V. Thorns from Big Creek on the Takotna River to Ganes Creek. The road up Big Creek was probably completed in 1916, for a local newspaper reported in that year that Higgins and Thorns were constructing the road, and that launches carrying considerable loads were being taken up the Takotna River to Big Creek, where the freight was then taken to Ganes Creek. 71/

During the winter of 1917-18, the Kuskokwim Dredging Company headed by Thomas P. Aitken constructed about four miles of road, and transported a dredge from the Kuskokwim River to Candle Creek. The Territorial Road Commission subsequently improved that stretch of the road, and constructed an additional five miles to mines on Carol, Glen, and Candle Creeks. Two large bridges, one 300 feet long and the other 350 feet long, were also built. The road was located on an eight percent grade. 72/

During the 1920's, the Candle Landing-Candle Creek road, as it was then called, was maintained primarily by the Kuskokwim Dredging Company, which used the road to haul freight to dredge operations on Candle Creek during the winter months. The Alaska Road Commission did perform some work on the road, or more specifically, the Tatalina River bridge, which was periodically washed out by high water. 73/ Evidently the bridge was built in 1920, and rebuilt in 1923, 1925, and 1927. In the winter of 1926-27, Arthur L'heureaux, Dave Clough, and Olaf Waagan constructed an 80-foot supervision bridge over Tatalina River. 74/

The Alaska Road Commission inspected the road in fiscal year 1923 with a view to its possible rehabilitation and improvement. Although the dredging company reportedly hauled 125 to 175 tons of freight over the road each season, the Commission chose not to improve the road, citing excessive costs. The Commission estimated that \$29,000 would be necessary to make the improvements. 75/ In 1925, R.D. Menzie of the Kuskokwim Dredging Company appealed to the Commission to repair the road, especially in laying corduroy in soft places. He wrote, "This is absolutely the only possible way to get supplies to Carl Creek and Candle Creek in the summer." 76/ Other than supervising the construction of the Tatalina River bridge, the Commission did little work on the route.

After 1927, when the Candle Creek dredge ceased operations, the road was allowed to fall into a state of disrepair. In 1932, Grenold Collins of the Alaska Game Commission went over a section of the road near the Kuskokwim River, and reported it in bad condition. Wagon teams had not been used on the road in several years. Willow brush, 4.5 feet high in some places, had grown up in the middle of the road; several small bridges had collapsed due to rot. Collins described the road as a good trail for pack horses; he stated that miners had probably transported about 800 pounds of freight over the trail with dogs in the summer, and less than a ton was to be hauled in the winter.

Collins' visit to the road had been instigated by reports that a beaver dam had caused water to flood the road. Between the Kuskokwim River

landing and the mountains, travellers on the old road encountered two lakes, former sloughs of the river, which were populated by beaver. The road crossed the first lake over a bridge, and paralleled the second lake for about a mile. The lakes were connected by a small stream, which beaver had blocked with a dam, thereby causing water to flood the road for about 75 feet. D.D. McDonnell, a miner on Candle Creek, wanted to destroy the dam. Collins advised him to trap the beaver during the winter, and the Game Commission would destroy the dam in the spring. McDonnell agreed to this, admitting that he could haul his supplies over the road in the fall without much difficulty. 77/

In 1937, the old road was given new life as Dave Strandberg and his son Ted decided to mine Candle Creek with a dragline. During the summer of that year, the Strandbergs employed about 30 men in rehabilitating the road, stripping the overburden, and installing equipment on Candle Creek. In a conversation with Ted Strandberg in June, Fred Spach of the Alaska Road Commission learned that the Strandbergs had a few men cutting brush and niggerheads on the old summer trail from McGrath to Candle Landing, and rehabilitating the road from the landing to the dredge tailings on lower Candle Creek. They intended to follow the trailings up the creek to the site of their mining operations. On July 3, Dave Strandberg informed Spach that the old road was in shape to transport their dragline and tractor over it. 78/

The Alaska Road Commission was greatly interested in these developments, for it was then constructing a road from Takotna to Nixon Fork in an effort to link the Innoko mining district with steamboat navigation. The Commission found construction of the Takotna-Nixon Fork road prohibitively expensive, and so in 1938 it shifted its attention to the construction of a extension of the Kuskokwim River-Candle Creek road to Takotna. Following an inspection of the route in 1938 by Fred J. Spach, the Commission directed its forces to the route. By the end of the year, the Commission had extended the road to Takotna, and Hawley W. Sterling of the Commission was referring to it as the "new Kuskokwim-Takotna Road," 25 miles long. 79/

MEDFRA-NIXON MINE ROAD

In the late 1910's, winter travel to the mines on upper Nixon Fork was over a 37-mile trail beginning at the mouth of Nixon Fork. With the production of ore in 1918, however, miners located a shorter route, about 12 miles in length, from the mines directly to the Kuskokwim River. During the winter of 1919-20, ore from the mines was sledged to the river for shipment by boat in the following spring down the Kuskokwim River, thence to Tacoma, Washington by ship. The Nixon Fork-Nixon Mine trail was subsequently abandoned.

Obtaining an option on the lode claims, the Alaska Treadwell Gold Mining Company expended about \$2,500 in 1920-21 in constructing a 12-mile wagon road from the mines to Berry's Landing on the Kuskokwim River. According to George C. Martin, a geologist with the Geological Survey, who visited the area in 1920, the road was located on soft ground from Berry's Landing for about half of its distance before climbing onto solid ground on the slopes of the hills. Located on an average grade of

five percent, the road was in good condition in the mountain section, but in poor condition on the flats, where it was with great difficulty kept passable for heavy freight wagons. 80/

The Treadwell Company maintained the road, and made necessary improvements. During the summer of 1921, a crew of 11 men were engaged in laying corduroy and generally maintaining the road. Teamsters hauled timber to the mines, and ore to Medfra. In 1923, however, the Treadwell Company quit the area, and the road was allowed to deteriorate. In 1924, it was reported that the road was "unused and scarcely passable in summer." 81/

During the last half of the 1920's, the road was generally used as a winter route to the Nixon Fork mines. About 1929, however, the Alaska Road Commission adopted the route, and began improving the road for wagon and automobile traffic. The following table illustrates this development.

TABLE No.2. TRAFFIC CENSUS, MEDFRA-NIXON MINE ROAD, 1925-1931

	<u>1925*</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931**</u>
Passengers	80	136	441	396	209
Automobiles					4
Wagons	20	65	14	18	14
Sleds		64	49	49	44
Tonnage	8	35	27	32	

*June-October **April-September

In fiscal year 1930, the Commission relocated a short section of the road, and constructed several bridges. In 1933, foreman E.A. Adams directed a crew in corduroying and ditching the first six miles of the road from Medfra, constructing bridges and culverts, and clearing the right-of-way to a width of 30 feet. By this time, the road was passable throughout the year for trucks and tractors. 82/

By 1940, then all but one of the principal mines in the upper Kuskokwim basin were linked to the Kuskokwim River by a system of summer and winter roads. The Medfra-Nixon mine road provided access throughout the year to placer and lode mines on Nixon Fork. The Sterling Landing-Takotna road and the Takotna-Ophir road served the miners on the upper Innoko River and on Candle Creek. In 1947, M.C. Edmunds of the Alaska Road Commission described the Sterling Landing-Takotna road as "one of the main roads in the district, all of the heavy equipment and materials being hauled over it to the Ophir Mining District." 83/ During the early 1950's, the road was heavily used by military contractors in transporting supplies, materials, and equipment to the Tatalina River, where they were constructing facilities of the Tatalina station. 84/

~~Of all the mines in the upper Kuskokwim basin, those on Moore Creek, in the headwaters of Takotna River, were not dependent upon the Kuskokwim River for the transportation of freight to the diggings. While miners on Moore Creek did have access to Takotna by means of the so-called~~

Moore Creek trail, and to Ophir via the Ophir-Iditarod trail, they relied primarily on trails to Flat and Iditarod for the transportation of freight to their prospects.

MOORE CREEK TRAIL

The Moore Creek trail was first blazed by stampeders in the Iditarod gold rush of 1909-10. During his visit to the Innoko and Iditarod districts in the summer of 1910, Anton Eide noted the existence of the winter trail. From Takotna, the trail followed the Takotna River to the mouth of Fourth of July Creek, where a Indian village was located. The trail followed the creek to a point near its head where it crossed a low divide to prospects on Moore Creek. Following Moore Creek, the trail crossed a low timbered divide to the head of Bonanza Creek, a tributary of the Iditarod River. The trail then descended Bonanza Creek to a point opposite the head of Little Creek, crossed to that creek, then followed Little Creek to Discovery on Otter Creek. Eide estimated the distance between Takotna and Moore Creek to be 40 miles by trail, or 125 miles by river. He noted too that roadhouses had not yet been located on the trail, although a few trappers did have cabins along the river.

85/

Upon the recommendation of Anton Eide, the Alaska Road Commission included the Moore Creek trail in the Seward-Iditarod trail system, clearing and staking the trail from Takotna to Flat in the summer of 1911. In the previous summer, the Kuskokwim Commercial Company established a trading post at the mouth of Big Creek in order to trade with the nearby Indian village and to serve travellers on the trail. In the fall of 1911, several roadhouses were established on the trail. In August 1911, Aaron Longnecker, a miner on Moore Creek, predicted that all supplies to Moose Creek would be hauled over the winter trail from Iditarod in the future, in as much as low water in the Takotna River had lately prevented even poling boats from reaching Moore Creek from Takotna. About the same time, Theodore Witte, another miner on Moore Creek, visited Iditarod and announced that miners on the creek would doubtless obtain their supplies from Iditarod, even though it would cost 25¢ a pound to transport supplies to Moore Creek. He claimed that the miners were being "held up" by the Kuskokwim Commercial Company store at Takotna and by the river freighters. 86/

When in 1914 mail service was instituted on the Seward-Iditarod trail, the mail carriers adopted the Moore Creek trail. In the following season, however, they adopted the Ophir-Iditarod trail. Originally constructed in 1910 by public subscription, this trail was located on ~~high bare ridges, and was suitable for travel in summer and winter.~~ The Moore Creek trail, on the other hand, was considered to be impassable during the summer, and was even difficult to traverse during the winter due to deep snow. 87/

With the establishment of the Ophir-Iditarod trail as the common route of travel, miners on Moore Creek located a seven-mile branch from the main trail, about 35 miles from Flat, to their diggings. The miners subsequently relied upon this trail throughout the year to haul supplies from Iditarod and Flat to the mines. In 1915, John B. Mertie, Jr., of

the Geological Survey reported that miners on Moore Creek obtained all freight from Iditarod at a rate of 25.5 cents per pound in summer, and six to seven cents per pound in winter. 88/

While all freight for Moore Creek was hauled over the Flat-Moore Creek trail, the miners continued to use the old Moore Creek trail as a route of travel. Shortly after the Alaska Road Commission established its district headquarters at Takotna, a miner on Moore Creek named Cecil Barlow wrote a letter to Colonel James G. Steese, president of the Commission, appealing for Government assistance in constructing shelter cabins on the Moore Creek -Iditarod winter trail. He stated that the miners on Moore Creek obtained all their supplies from Flat, but that most of the miners in the camp used the old Moore Creek trail in early winter, before the snow fell, to reach Takotna. The trail was about 20 miles shorter than the Iditarod-Takotna trail. In 1923, the Commission let a contract to Barlow for the construction of a shelter cabin on Bonanza Creek, about 1.5 miles below the Moore Creek summit. Barlow completed the cabin during the winter of 1923-24. 89/

VIII. AVIATION

The development of air transportation in the upper Kuskokwim basin was a post-World War I phenomenon. As early as 1916, the Post Office Department advertised for bids for airplane mail service to interior Alaska towns, including Takotna. A few bids were actually submitted; but all were rejected as too excessive. 1/ In 1923, the Post Office Department again decided to consider the use of airplanes as mail carriers, and this time let a 10-week contract to aviator Carl Ben Eielson as an experiment. Eielson was to make weekly flights from Nenana to McGrath. After a three-hour flight in a DeHaviland Four, Eielson landed at McGrath at 11:50 A.M. on February 21, 1924 with three or four sacks of mail. 2/ He made additional trips to McGrath. 2/

Eielson's historic flight was to have a revolutionary effect on transportation in the upper Kuskokwim basin. Aviators such as Noel Wien and A. A. Bennett made regular flights to McGrath, Takotna, and other communities in the Kuskokwim River, carrying passengers, perishable freight, and small machine parts for mining equipment. The pilots were able to serve the area throughout the year, using airplanes equipped with wheels, pontoons, or skis. Some trappers and prospectors, like Arthur Berry, purchased their own airplanes, while others chartered airplanes to take them to Anchorage, Fairbanks, or their trapping and mining headquarters. By the late 1920's, the sky was fairly alive with airplanes. William N. Beach of New York City wrote that when he was exploring the Rainy Pass section in 1930, "there was hardly a day went by that we did not have a plane fly over us going to or from the Iditarod, or in that general direction." 3/ In 1935, T. Eugene Tibbs, a game warden at McGrath, reported: "Owing to the increasing use of airplanes by nearly all classes of travellers in the Kuskokwim Valley, the dog team trails were so little used during the winter that it now appears the further retention of sled dogs in that area is no longer advisable." 4/ In March of the same year, Tibbs required eight hours to travel by dog sled from McGrath to Takotna, a distance of but 17 miles. The trail had not been used for two weeks and was blocked by snow drifts. 5/

Witnessing the rapid development of air transportation in Alaska, the Territory and the Alaska Road Commission entered into a cooperative agreement to construct aviation fields at the largest communities in Alaska. The Territory financed the construction of the fields up to 50 percent of the cost, the balance coming from private contributions in the form of labor or money. The Alaska Road Commission agreed to locate sites for aviation fields, and once the Territory approved the site, supervise the construction of the field.

Under this agreement, the Commission directed the construction of five fields in the upper Kuskokwim basin during the late 1920's. The McGrath field (200' x 1600') was constructed on the left limit of Takotna River about 0.25 miles upstream from its confluence with the Kuskokwim River and adjacent to McGrath. The Commission located a suitable site for a field at Takotna in 1925. The Territory allotted \$1,500 for the project, and so the Commission cleared and graded a field (500' x 1000') on a hill behind Takotna, about 0.5 mile distant. Much to the dismay of

the Commission, aviator Noel Wien refused to land on the new field in the summer of 1925, claiming that it was too short. A. A. Bennett, another pilot, visited the field in March 1926, pronouncing it suitable but perhaps inconvenient. He recommended a site just below Takotna, locally known as "the meadows," but stated with some exaggeration that he needed a field only 100 feet wide and 500 feet long. On May 11, 1926, Bennett made a safe landing and takeoff on the Takotna field. 6/

The fields at Medfra and Telida, both constructed in 1927, were less substantial affairs. The Medfra field (400' x 1000') was located on bar across the Kuskokwim River opposite the Medfra Trading Post. The Commission dragged and leveled the field in 1927, and subsequently removed driftwood whenever necessary. Used only in emergencies, the Telida field (250' x 850') was located about 0.5 mile southeast of the village, or 1,000 feet east of the New Telida Roadhouse on the east bank of the Swift Fork. 7/

In late 1930, Alaskan Airways, Inc., instituted regular bi-weekly flights between Anchorage and Flat, with stops at Medfra, McGrath, and Takotna. The company subsequently obtained the mail contract, and with mining activity on Takotna River, became an important carrier of supplies to the miners. In February 1932, Arthur L. Johnson, manager of the company, requested the Alaska Road Commission to provide docking and loading facilities for airplanes at McGrath, Takotna, Iditarod and other places on the Kuskokwim River; and to improve the field at Takotna which was too small for big loads and the approaches hazardous. The Commission, lacking sufficient funds, could do nothing to implement Johnson's recommendations. 8/

In 1937, however, relief funds were made available for aviation fields at McGrath and Takotna. In 1938, the Commission constructed a new field (200' x 1570') about one mile north of Takotna. The field was used by various commercial operators, including Star Airlines, Inc., Woodley Airways, and Jim Dodson. The field was subsequently lengthened to 1,700 feet. 9/

In addition, the Commission planned to construct fields at Candle Creek and Tatina River. Local miners had constructed a field near Candle Creek sometime in the late 1930's. Hawley Sterling of the Commission inspected sites along the Sterling Landing - Candle Road in 1938, and although he found likely sites, he recommended against the construction of a new field. 10/

The Tatina River field was constructed in 1938-39. In 1938, the Alaska Road Commission, the Territorial Board of Road Commissioners, the Civilian Conservation Corps, and Star Airways discussed proposals to construct fields east and west of Rainy Pass. Avigation in Rainy Pass was sometimes treacherous, and as a precautionary measure Star Airways stationed a man with a radio near the pass to inform aviators of weather conditions. In October 1938, however, pilot Glenn Day disappeared in the area. Search parties were sent to Rainy Pass, and a rough temporary runway (50' x 1400') was constructed at the mouth of Tatina River so that search airplanes could land and takeoff in one direction. M. C. Edmunds of the Alaska Road Commission participated in the search for Day

and in the construction of the temporary field; he subsequently recommended that the field be improved. In the fall of 1939, a Civilian Conservation Corps crew built an emergency field (100' x 2000') near the mouth of Tatina River, about 10 miles west of Rainy Pass. 11/

During World War II and the Cold War, additional aviation fields were constructed in the area. The Civil Aeronautics Authority (CAA) constructed two asphalt runways (300' x 3200', 300' x 6600') at McGrath, which became the airway junction for Nome, Anchorage, and Fairbanks. The old fields at McGrath and Takotna were abandoned in 1945. In the late 1940's, the Alaska Road Commission undertook the improvement of the Medfra airfield (110' x 2200') which local miners constructed sometime in the late 1930's. In the early 1950's, the military constructed a field near Candle Creek, and the CAA constructed a field, 5,000 feet in length, near Farewell Lake. Miners on Moore Creek and Nixon Fork also built small fields. 12/

In the early 1960's, the State of Alaska provided funds for the construction of a small field at Nikolai Village. Local residents constructed the field on a long ridge behind the village. The dirt airstrip is suitable for landings by small single-engine crafts only. 13/

FOOTNOTES

I. The Upper Kuskokwim River Basin

1. A. T. Fernald, Geomorphology of the Upper Kuskokwim Region. U.S. Geological Survey Bulletin 1071-6 (Washington, 1960), p. 203.
2. Ibid., p. 266. For a thorough discussion of bog flats in the basin, see William H. Drury, Jr., Bog Flats and Physiographic Processes in the Upper Kuskokwim River Region, Alaska. Contributions from the Gray Herbarium of Harvard University, No. CLXXVII (Cambridge, 1956), pp. 18 ff.
3. Fernald, op. cit., pp. 252-253.
4. Alfred G. Maddren, The Innoko Gold-Placer District, Alaska. U.S. Geological Survey Bulletin 410 (Washington, 1910), p. 15; J.L. McPherson, "Report of Kuskokwim Reconnaissance" in "Report of Alaskan Engineering Commission," February 11, 1915, pp. 205-206, Box 146492, Records of The Alaska Railroad, Record Group 322, Federal Records Center, Seattle, WA. The report of the Alaska Engineering Commission was published as House Document No. 610 in 1916. Stream gradients for the upper Kuskokwim Rivers were obtained from the U.S., Corps of Engineers, Alaska District, Interim Report No. 7, Yukon and Kuskokwim River Basins, Alaska (88th Cong., 2nd sess., H. Doc. No. 218) (Washington, 1964).
5. J. L. McPherson, op. cit., pp. 205-206.
6. Joe Labay, "Navigability Field Report," June 6, 1977, File Serial No. F-14906-EE, Alaska Native Village Selection Applications, Anchorage District Office, Bureau of Land Management, hereinafter referred to as ANCSA file.
7. C. Ellis, "Navigability Field Report," June 6, 1977, File Serial No. F-14945-EE, ANCSA file.
8. Joe Labay, "Navigability Field Report," June 6, 1977, File Serial No. F-14945-EE, ANCSA file.
9. C. Ellis, "Navigability Field Report," June 7, 1977, File Serial No. F-14942-EE, ANCSA file.
10. A. T. Fernald, op. cit., p. 268.

II. Explorations

1. Lavrenti A. Zagorskin, Lieutenant Zagorskin's Travels in Russian America, 1842-1844 (Toronto, 1967), pp. 81, 237-238, n. 93.
2. Ibid., p. 254.

3. Ibid., pp. 82, 264, 272-273.
4. Walter L. Goodwin to Alaska Road Commission, April 16, 1908, Historical Documents Geologic File, U.S. Geological Survey, Menlo Park, CA.
5. U.S., Coast Survey, "Alaska and Adjoining Territory," 1869.
6. Josiah Edward Spurr, "A Reconnaissance in Southwestern Alaska in 1898," in U.S., Geological Survey, Twentieth Annual Report...1898-99 (Washington, 1900), p. 95.
7. U.S., Bureau of Education, "General Chart of Alaska," 1897.
8. Josiah Edward Spurr, op. cit., p. 95.
9. Iditarod Pioneer, February 4, 1911.
10. Josiah Edward Spurr, op. cit. The light cedar canoes were specially built for the Spurr expedition in Peterboro, Canada. According to Spurr: "Our object in selecting these boats was to procure a craft which would be equally serviceable in upstream and downstream work, in rapid or in slow water, and on the portage; and the result of our trip showed that, while for any particular place of the work a different boat might have been better, for all purposes taken together very light draft of large carrying capacity, such as these, is unexcelled. p. 44. The Peterborough canoe was often used in subsequent U.S. Geological Survey exploring expeditions. It should be noted, in passing, that each man in Spurr's party was permitted to carry 40 pounds of personal baggage only.
11. Joseph S. Herron, Explorations in Alaska, 1899, For An All-American Overland Route from Cook Inlet, Pacific Ocean, to the Yukon. U.S. War Department, Adjutant General's Office, No. 31. (60th Cong., 2d sess., S. Doc. No. 689) (Washington, 1909).
12. Ibid., p. 51.
13. Ibid., p. 54.
14. Alfred Hulse Brooks, The Mount McKinley Region, Alaska. U.S. Geological Survey Professional Paper 70 (Washington, 1911); Alfred Hulse Brooks, "An Exploration to Mount McKinley, America's Highest Mountain," The Journal of Geography, II (November, 1903), pp. 440-469.

III. Mining

1. Alfred Hulse Brooks, Blazing Alaska's Trails (Fairbanks, 1973), p. 328.
2. U.S., Congress, House, Committee on Merchant Marine, Investigation of the Fur-Seal and Other Fisheries of Alaska (50th Cong., 2nd sess., H. Rept. No. 3883) (Washington, 1889), pp. 399-400.

3. The Iditarod Nugget, November 2, 1910; Alfred Hulse Brooks, The Mount McKinley Region, p. 29; Alfred G. Maddren, Gold Placers of the Lower Kuskokwim. U.S. Geological Survey Bulletin 622-H (Washington, 1915), p. 299.
4. Alfred G. Maddren, Gold Placers of the Lower Kuskokwim, p. 299; U.S., Revenue-Cutter Service, Report of the Operations of the U.S. Revenue Steamer Nunivak on the Yukon River Station, Alaska 1899-1901 (Washington, 1902), p. 192.
5. Alfred G. Maddren, The Innoko Gold-Placer District, p. 21.
6. Ibid., p. 22.
7. Walter L. Goodwin, op. cit.; Alfred G. Maddren, Fieldbook No. 277, U.S. Geological Survey, Menlo Park, CA. Goodwin reported that gold was discovered on Ophir Creek about February 20, 1908.
8. Walter L. Goodwin, op. cit.
9. Alfred G. Maddren, The Innoko Gold-Placer District, p. 23.
10. Ibid., p. 21.
11. Josiah Edward Spurr, op. cit., p. 118.
12. Iditarod Pioneer, December 19, 1914.
13. W. E. Priestley, "The Kuskokwim River - Alaska's Neglected Highway," The Alaska-Yukon Magazine, VIII (July 1909), p. 282.
14. Iditarod Pioneer, July 10, 1910.
15. Iditarod Pioneer, January 22, 1911, November 2, 1912, August 7, 1915.
16. The Kusko Times, October 18, 1922.
17. Walter L. Goodwin, op. cit.; Alfred H. Brooks, The Mount McKinley Region, p. 169.
18. W. E. Priestley, op. cit., p. 282, Alfred H. Brooks, The Mount McKinley Region, pp. 131, 188.
19. The Kusko Times, March 24, 1928, October 15, 1932. Apparently Conley sometimes contracted with local residents to transport supplies for him. In March 1921, it was reported that Woodrow T. Vanderpool transported a load of freight for Conley to someplace near Peluk Roadhouse. See The Kusko Times, March 16, 1921.
20. U.S., Bureau of Mines, Minerals Yearbook 1961, (Washington, 1962), p. 96; U.S., Bureau of Mines, Minerals Yearbook 1964 (Washington 1965), pp. 102-103.
21. The Iditarod Nugget, October 12, 1910; John B. Mertie, Jr. and

Money, R16892
1667, p. 2

George L. Harrington, The Ruby-Kuskokwim Region, Alaska. U.S. Geological Survey Bulletin 754 (Washington, 1924), p. 108; Alfred G. Maddren, Fieldbook No. 275, and John B. Mertie, Jr., Fieldbook No. 425, U.S. Geological Survey, Menlo Park, CA; Cecil Barlow to Col. James C. Steese, June 30, 1922, File 13/58-10, Box 65479, Records of the Federal Highway Administration, Record Group 30, Federal Records Center, Seattle, WA.

22. P.S. Smith, et al., Mineral Resources of Alaska...1935. U.S. Geological Survey Bulletin 880. (Washington, 1939), pp. 48-49; P.S. Smith, et al., Mineral Resources of Alaska...1936 U.S. Geological Survey Bulletin 897 (Washington, 1938), p. 57; P.S. Smith, et al., Mineral Resources of Alaska...1937. U.S. Geological Survey Bulletin 910 (Washington, 1939), p. 59; P.S. Smith, et al., Mineral Resources of Alaska...1940. U.S. Geological Survey Bulletin 933 (Washington, 1942), pp. 51-52.
23. Iditarod Pioneer, February 5, 1916, June 10, 1916, September 30, 1916; John B. ~~M~~ertie, Jr. and George L. Harrington, The Ruby-Kuskokwim Region, Alaska, pp. 107-108; P.S. Smith, et al., Mineral Resources of Alaska...1927. U.S. Geological Survey Bulletin 810 (Washington, 1930), p. 31.
24. P.S. Smith, et al., Mineral Resources of Alaska...1940, pp. 51-52; see also U.S. Bureau of Mines, Mineral Yearbook for the years 1939 (p. 192), 1941 (p. 184), 1946 (p. 1304), 1950 (p. 1377), 1951 (p. 1397), 1952 (p. 83), and 1953 (p. 87).
25. The Iditarod Nugget, November 30, 1910, March 15, 1911, April 19, 1911; The Iditarod Pioneer, May 20, 1911; The Kusko Times, June 25, 1932; Anton Eide to Alaska Road Commission, August 18, 1910, Historical Documents Geologic File, U.S. Geological Survey. Menlo Park, CA; D. H. Sleem, "Great Kuskokwim, A New Land of Promise," Alaska-Yukon Magazine, X (November 1910), p. 299; Tom Odale, "Some Alaskan Adventures," The Alaska Journal, IV (Winter, 1974), p. 45.
26. John S. Brown, "The Nixon Fork Country," in P. S. Smith, et al., Mineral Resources of Alaska...1924. U.S. Geological Survey Bulletin 783. (Washington, 1926), pp. 97-144; John B. Mertie, Jr. and George L. Harrington, Mineral Deposits of the Ruby-Kuskokwim Region. U.S. Geological Survey Bulletin 864-C (Washington, 1936), passim; The Pathfinder of Alaska, II (July 1921), p. 22.
27. U.S., Bureau of Mines, Minerals Yearbook, 1946 (Washington, 1947), p. 1304.
28. U.S., Bureau of Mines, Minerals Yearbook, 1961 (Washington, 1962), p. 96; Lennart A. Anderson, Bruce L. Reed, and Gordon R. Johnson, "Geologic Interpretation of a Residual Aeromagnetic Map of the Nixon Fork District, Alaska," In Geological Survey Research 1970. Chapter D. Professional Paper 700-D (Washington, 1970), p. D129.

IV. Hunting, Fishing, and Trapping

1. Edward Howard Hosley, "Factionalism and Acculturation in An Alaskan Athapaskan Community" (unpublished Ph.D. dissertation, UCLA, 1966), pp. 90-106, 135-136.
2. Harry J. Christoffers and Lee R. Dice, "Minor Fur Industries" in U.S., Bureau of Fisheries, Fishery and Fur Industries of Alaska In 1912. Doc. No. 780 (Washington, 1913), p. 122.
3. Edward H. Hosley, op. cit., pp. 194-197, 204-205.
4. Alaska Game Commission, "Fifth Annual Report of the Executive Officer...for the Period November 1, 1928 to October 31, 1929," pp. 26-27.
5. Ibid., p. 28.
6. Alaska Game Commission, "Seventh Annual Report...November 1, 1930 to October 31, 1931," p. 88.
7. Alaska Game Commission, "Sixth Annual Report...November 1, 1929 to October 31, 1930," p. 68; Alaska Game Commission, "Eighth Annual Report...November 1, 1931 to October 31, 1932," p. 38.
8. Alaska Game Commission, "Ninth Annual Report....," pp. 109-110.
9. Alaska Game Commission, "Eleventh Annual Report...December 1, 1935 to October 31, 1936," pp. 35-36.
10. Ibid., p. 36.
11. Alaska Game Commission, "Twelfth Annual Report...November 1, 1936 to December 31, 1937," p. 84.
12. Edward H. Hosley, op. cit., pp. 273-274.
13. Ibid., pp. 263-264.
14. Ibid., pp. 266-278.

V. Communities

1. Elizabeth F. Andrews, Report on the Cultural Resources of the Doyon Region, Central Alaska. Occasional Paper No. 5. Vol. II (Fairbanks, 1977), pp. 370-371, 382, 384.
2. Edward H. Hosley, op. cit., pp. 156, 164, 168-169, 175.
3. Wendell H. Oswalt, "Historic Settlements Along the Kuskokwim River, Alaska," (unpublished manuscript, 1978).
4. Josiah Edward Spurr, op. cit., p. 71.
5. Ibid., p. 51.

6. Alfred G. Maddren, Gold Placer Mining Developments in the Innoko-Iditarod Region, U.S. Geological Survey Bulletin 480-I (Washington, 1911), Plate XI.
7. Joseph S. Herron, op. cit., pp. 35, 66.
8. Edward H. Hosley, op. cit., p. 265; Elizabeth F. Andrews, op. cit., p. 380.
9. Walter L. Goodwin, op. cit.
10. Iditarod Pioneer, January 22, 1911; Hudson Stuck, Ten Thousand Miles with a Dog Sled, A Narrative of Winter Travel in Interior Alaska (N.Y., 1914), p. 322.
11. Iditarod Pioneer, September 12, 1914; Gov. to Ms. Leonie Nohl VanPelt, July 7, 1922, General Correspondence of the Alaskan Territorial Governors, National Archives Microfilm Publication M939, roll 93, frame 221.
12. The Kusko Times, February 18, December 6, 1922.
13. The Kusko Times, April 17, 1926.
14. Edward H. Hosley, op. cit., pp. 229, 257-258, 267-268.
15. Ibid., pp. 173-174; Charlene Craft LeFebre, "A Contribution to the Archaeology of the Upper Kuskokwim," American Antiquity, XXI (January, 1956), pp. 268-269.
16. Edward H. Hosley, op. cit., pp. 148, 151.
17. Joseph S. Herron, op. cit., p. 67.
18. Iditarod Pioneer, March 13, 1915.
19. Edward H. Hosley, op. cit., p. 197.
20. The Kusko Times, February 6, 1922, April 21, 1923.
21. LeFebre, op. cit., pp. 268-269; Charlene Craft, "The Last of the Telidas Tells His Story," Farthest North Collegian, XXX (1950), pp. 14-15.
22. Edward H. Hosley, op. cit., pp. 257, 265-266; Wendell H. Oswalt, op. cit.
23. George Byron Gordon, In the Alaska Wilderness (N.Y., 1978), p. 107; Walter L. Goodwin, op. cit.
24. The Kusko Times, September 14, 1921, June 2, 1928, December 29, 1928, March 23, 1929, January 5, 1935; Edward H. Hosley, op. cit. pp. 185, 219; Wendell H. Oswalt to John Beck, March 6, 1977, copy in writer's files.

25. The Kusko Times, June 2, 1928, December 29, 1928, June 28, 1930; Edward H. Hosley, op. cit., pp. 175, 184; Wendell H. Oswalt "Historic Settlements"; Alice T. Lynch, "Preliminary Inventory of Cultural Resources Along the Iditarod Trail; Rainy Pass and Unalakleet" (unpublished manuscript, 1978).
26. The Kusko Times, May 12, 1928; John B. Mertie, Jr. and George L. Harrington, The Ruby-Kuskokwim Region, p. 12; Edward H. Hosley, op. cit., pp. 175-176.
27. Elizabeth F. Andrews, op. cit., p. 385; Edward H. Hosley, op. cit., p. 184.
28. Joseph S. Herron, op. cit., pp. 35, 67; Edward H. Hosley, op. cit., pp. 173-174, 180, 184, 215; Elizabeth F. Andrews, op. cit., pp. 368, 369; Photographs Nos. 171 and 172, Stephen Foster Album, University of Alaska Archives, Fairbanks.
29. Tom Odale, op. cit., p. 44; George Byron Gordon, op. cit., p. 107; Seward Weekly Gateway, April 6, 1912; Wendell H. Oswalt, "Historic Settlements"; L.D. Kitchener, Flag Over the North (Seattle, 1954), p. 176. Kitchener wrote that Apple established his post in 1904, but neglected to cite her source of information.
30. Anton Eide, op. cit.
31. Lee Raymond Dice, Chapter 10, Journal, University of Alaska, Archives, Fairbanks.
32. Walter L. Goodwin, op. cit.; Anton Eide, op. cit., Iditarod Pioneer, July 11, 1914; Lee Raymond Dice Journal; J.L. McPherson, op. cit., p. 224.
33. The Kusko Times, April 2, 1921; Hartman to Chief Signal Officer, October 6, 1923, C.A. Seone to Governor, October 20, 1923, General Correspondence of the Alaskan Territorial Governors, roll 108, frames 280, 284.
34. "From Ketchikan to Barrow," Alaska Sportsman, IV (December 1938), p. 19; Patrice Brazil, "One Teacher Territorial School (McGrath)" (unpublished manuscript, University of Alaska Archives, Fairbanks, 1941).
35. James D. Bush, Jr., "Narrative Report of Alaska Construction, 1941-1944" (unpublished manuscript, Alaska Resources Library), pp. 113-115.
36. Elmer W. Shaw, "Alaska Frontier Family," Alaska Sportsman, XXXI (July 1965), pp. 15-19.
37. Walter L. Goodwin, op. cit.
38. Anton Eide, op. cit.; D.H. Sleem, op. cit., p. 300.

39. The Kusko Times, November 17, 1928.
40. Wendell H. Oswalt, "Historic Settlements"; Anton Eide, op. cit.; Lee R. Dice Journal, p. 101.
41. Iditarod Pioneer, December 4, 1910, June 8, 1911, July 1, 1911, August 14, 1915.
42. The Kusko Times, February 19, 1921, August 23, 1924, May 7, 1931; John S. Brown, op. cit., p. 99; Edward H. Hosley, op. cit., p. 203.
43. The Iditarod Nugget, October 26, 1910, December 28, 1910; Iditarod Pioneer, January 10, 1914, December 19, 1914.
44. The Kusko Times, February 21, 1923, May 10, 1924, December 1, 1928; Irving Reed, "Rainy Pass By Dog Team," Alaska Sportsman, XXXIV (October, 1965), p. 11; see correspondence in File 13/58-9, Box 65479, Records of the Federal Highway Administration, Record Group 30, Federal Records Center, Seattle, WA.
45. The Kusko Times, March 24, 1928, May 10, 1930, October 15, 1937; Alice T. Lynch, op. cit.; see correspondence in File 13/159-176, Box 65432, Records of the Federal Highway Administration, RG 30.
46. Seward Weekly Gateway, March 5, 1911; The Iditarod Nugget, March 22, 1911; Iditarod Pioneer, December 19, 1914, December 26, 1914, December 2, 1916; The Kusko Times, January 19, 1921, October 27, 1923; Alice T. Lynch, op. cit.; Photograph No. 176, Stephen Foster Album.
47. The Iditarod Nugget, March 1, 1911, March 8, 1911.
48. Iditarod Pioneer, January 14, 1913, January 10, 1914, December 12, 1914, December 26, 1914; The Kusko Times, March 24, 1923, June 2, 1928, January 5, 1935. October 15, 1937; Photograph No. 175, Stephen Foster Album; Cioli to Major John C. Gotwals, June 22, 1923, John C. Gotwals to Frank R. Cioli, October 25, 1923, File 13/58-1, Box 65479, Records of the Federal Highway Administration, RG 30.
49. Seward Weekly Gateway, March 5, 1911; The Iditarod Nugget, March 8, 1911; Iditarod Pioneer, December 19, 1914, December 26, 1914.
50. Alice T. Lynch op. cit.
51. The Iditarod Nugget, March 1, 1911, March 8, 1911, August 16, 1911; Iditarod Pioneer, January 13, 1912, October 31, 1914, December 12, 1914.
52. The Kusko Times, May 18, 1921, August 7, 1926, January 5, 1935; Photograph No. 173, Stephen Foster Album; Wendell H. Oswalt "Historic Settlements"; Alice T. Lynch, op. cit.

53. The Iditarod Nugget, March 8, 1911; The Iditarod Pioneer, January 22, 1911, February 25, 1911, March 22, 1911, March 25, 1916; Anton Eide, op. cit., Alfred G. Maddren, The Innoko Gold-Placer District, p. 26. Charles Lee Cadwallader, "Reminiscences of" (unpublished manuscript, University of Alaska Archives, Fairbanks), table.
54. The Kusko Times, October 4, 1922, October 14, 1922, December 6, 1922, February 24, 1923, April 21, 1923, September 22, 1924, April 17, 1926, March 17, 1928.
55. The Kusko Times, March 19, 1927, March 24, 1928, April 26, 1930, June 3, 1933, January 5, 1935.
56. The Kusko Times, July 23, 1921, September 13, 1922, October 28, 1922.
57. Alfred G. Maddren, Gold Placers of the Innoko District. U.S. Geological Survey Bulletin 379-E (Washington, 1909), p. 248; Wendell H. Oswalt, "Historic Settlements".
58. The Iditarod Nugget, September 7, 1910, March 8, 1911; Iditarod Pioneer, July 18, 1914, October 10, 1914, January 10, 1914, June 10, 1916; Anton Eide, op. cit.
59. Iditarod Pioneer, March 8, 1911, January 10, 1914, December 26, 1914.
60. Iditarod Pioneer, March 8, 1911, December 26, 1914.
61. Loc. cit.
62. Iditarod Pioneer, December 11, 1910, March 8, 1911, January 10, 1914, December 26, 1914.
63. The Kusko Times, November 14, 1923, April 17, 1926, April 12, 1930, June 28, 1930.
64. The Kusko Times, December 6, 1922.
65. The Kusko Times, April 21, 1923, April 17, 1926.
66. The Kusko Times, March 1, 1924.
67. The Kusko Times, February 24, 1923, April 21, 1923; Elizabeth F. Andrews, op. cit., pp. 385, 386.
68. The Kusko Times, December 6, 1922, February 24, 1923, July 14, 1923, November 14, 1923, April 25, 1925, December 1, 1928, April 6, 1929, April 26, 1930, September 20, 1930, June 6, 1931; R.R. Jones to Major Gotwals, May 5, 1923, Gotwals to R.R. Jones May 26, 1923, File 13/58-9, Box 65479, Records of the Federal Highway Administration, RG 30; Elizabeth F. Andrews, op. cit., p. 371.

69. Walter L. Goodwin, op. cit.; Iditarod Pioneer, January 22, 1911.
70. The Kusko Times, December 6, 1922, February 24, 1923, April 21, 1923, April 17, 1926.

VI. Water Transport

1. Alfred Hulse Brooks, The Mt. McKinley Region, p. 29.
2. "Steamer Nunivak for the Kuskokwim," Alaska's Magazine, II (April 1906), p. 47; The Kusko Times, June 28, 1924.
3. Alfred G. Maddren, Gold Placers of the Innoko District, p. 248; Alfred G. Maddren, The Innoko Gold-Placer District, p. 34; Tom Odale, op. cit., p. 46; George Byron Gordon, op. cit., pp. 127-128, 140-144.
4. Alfred G. Maddren, Gold Placers of the Innoko District, pp. 247-248.
5. Alfred G. Maddren, The Innoko Gold-Placer District, p. 38.
6. Iditarod Pioneer, July 17, 1915; Philip S. Smith, The Lake Clark-Central Kuskokwim Region, Alaska. U.S. Geological Survey Bulletin 655 (Washington, 1917), p. 17.
7. The Iditarod Nugget, January 18, 1911, August 2, 1911; Iditarod Pioneer, June 9, 1911, July 26, 1915; The Kusko Times, June 28, 1930.
8. Iditarod Pioneer, January 25, 1916; Philip S. Smith, Mineral Resources of the Lake Clark-Iditarod Region U.S. Geological Survey Bulletin 622-H (Washington, 1915), pp. 255, 303.
9. Iditarod Pioneer, June 14, 1916, July 22, 1916; John B. Mertie, Jr. and George L. Harrington, The Ruby-Kuskokwim Region, p. 85; G. C. Martin, Gold Lodes in the Upper Kuskokwim Region, p. 152.
10. The Kusko Times, May 25, 1921, July 14, 1923, July 4, 1925.
11. John B. Mertie, Jr., Mineral Deposits of the Ruby-Kuskokwim Region, p. 128.
12. "From Ketchikan to Barrow," Alaska Sportsman, II (March 1936), p. 6; The Kusko Times, October 15, 1937.
13. U.S., Corps of Engineers, op. cit., pp. 107-108.
14. Lado A. Kozely, Overall Economic Plan Relating to the Yukon-Kuskokwim River Basins Within the Jurisdiction of the BIA's Bethel District (Bethel 1964), p. 149.

15. Tom Odale, op. cit., pp. 44-45.
16. Alfred G. Maddren, Gold Placers of the Innoko District, p. 248; Wendell H. Oswalt, "Historic Settlements."
17. Alfred G. Maddren, Gold Placers of the Innoko District, pp. 247-249.
18. Anton Eide, op. cit.
19. The Kusko Times, June 1, July 6, September 17, 1921; May 24, June 17, September 7, 1922; October 6, 1923; July 5, July 14, October 30, 1924; May 23, May 30, September 5, 1925; February 5, September 17, November 19, 1937.
20. The Kusko Times, July 13, 1921.
21. U.S., Board of Road Commissioners for Alaska, Report.... Part II (Juneau, 1923), p. 88 and Report.... Part II (Juneau, 1924), p. 132.
22. The Kusko Times, June 15, 1921, May 30, 1925, September 5, 1925.
23. The Kusko Times, September 7, 1922.
24. Iditarod Pioneer, August 5, 1911.
25. Iditarod Pioneer, June 10, 1916. According to J. L. McPherson, op. cit., p. 207: "The Takotna is navigable for medium-sized river boats to the mouth of the Tuenta [Nixon Fork]....Above this junction the Takotna is navigable only for the very shallow draft stern-wheel launches which traverse the river, except at low stages of water, to the mouth of Big Creek."
26. Diane Cudgel-Holmes, Ethnohistory of Four Interior Alaskan Waterbodies (Boulder, CO, 1980), pp. 51-54.
27. John S. Brown, op. cit., pp. 98-99.
28. Tom Odale, op. cit., pp. 45-46.
29. The Kusko Times, June 25, 1932.
30. Anton Eide, op. cit.; Iditarod Pioneer, July 1, 1911.
31. The Kusko Times, May 25, May 30, 1925.
32. The Kusko Times, May 12, 1928.
33. Iditarod Pioneer, July 1, 1911; The Kusko Times, August 8, 1931.
34. The Kusko Times, June 24, 1933.

35. The Kusko Times, August 12, 1933.
36. The Kusko Times, October 15, 1937.
37. Diane Cudgel-Holmes, op. cit., pp. 54-56.
38. The Kusko Times, May 31, 1922.
39. Diane Cudgel-Holmes, op. cit., pp. 55-56.
40. Edward H. Hosley, "The McGrath Ingalik," Anthropological Papers of the University of Alaska, IX (May 1961), pp. 101-102.
41. Edward H. Hosley, "Factionalism and Acculturation," pp. 194-196.
42. Josiah Edward Spurr, op. cit., p. 51.
43. Ibid.
44. Ibid., pp. 51-52.
45. Ibid., p. 64.
46. Ibid., p. 68.
47. Ibid., p. 122.
48. Edward H. Hosley, "Factionalism and Acculturation," pp. 168-169.
49. George Byron Gordon, op. cit., pp. 90-91, 101-102.
50. Tom Odale, op. cit., pp. 43-44, 46.
51. Alfred G. Maddren, Gold Placers of the Innoko District, pp. 247-248.
52. Anton Eide, op. cit.
53. Iditarod Pioneer, January 22, 1911.
54. Iditarod Pioneer, July 29, 1911.
55. Edward H. Hosley, "Acculturation and Factionalism," p. 229.
56. See note 13 above.
57. Edward H. Hosley, "The McGrath Ingalik," p. 99.
58. Iditarod Pioneer, June 15, 1918.
59. Edward H. Hosley, "Acculturation and Factionalism," pp. 104, 265.

60. Diane Cudgel-Holmes, op. cit., pp. 35-38.
61. Edward H. Hosley, "The McGrath Ingalik," p. 101.
62. Iditarod Pioneer, July 1, 1911.
63. Iditarod Pioneer, August 7, 1915.
64. The Kusko Times, May 25, June 18, June 22, October 19, 1921.
65. The Kusko Times, June 10, June 16, July 24, October 11, 1922.
66. The Kusko Times, May 25, August 6, September 28, October 15, 1921.
67. The Kusko Times, August 23, September 10, October 18, 1922.
68. The Kusko Times, June 4, October 6, 1921; May 31, 1922.
69. The Kusko Times, May 18, 1921.
70. The Kusko Times, May 10, 1924, August 7, 1926, June 2, 1928, July 7, 1928, May 10, 1930, May 17, 1930, October 15, 1937.
71. Alice T. Lynch, op. cit.
72. Edward H. Hosley, "Acculturation and Factionalism," p. 269.
73. A. T. Fernald, op. cit., p. 195.
74. Diane Cudgel-Holmes, op. cit., pp. 46-50.
75. Josiah Edward Spurr, op. cit., p. 96.
76. Joseph S. Herron, op. cit., pp. 49-50.
77. Edward H. Hosley, "Acculturation and Factionalism," p. 161.
78. Ibid., pp. 161-162.
79. Seward Weekly Gateway, March 23, 1907.
80. George Byron Gordon, op. cit., pp. 23-26, 66-107, 127-128.
81. Lee Raymond Dice, op. cit.
82. Iditarod Pioneer, August 8, 1914.
83. Iditarod Pioneer, November 14, 1914.

84. Iditarod Pioneer, January 16, 1915.
85. The Kusko Times, May 25, 1921.
86. The Kusko Times, June 29, July 23, 1921.
87. The Kusko Times, August 16, 1921.
88. The Kusko Times, September 6, October 4, October 7, 1922.
89. The Kusko Times, January 19, 1921.
90. Ibid.
91. The Kusko Times, September 7, 1921.
92. The Kusko Times, November 2, November 5, 1921.
93. The Kusko Times, January 24, 1925.
94. The Kusko Times, August 30, November 29, 1924.
95. The Kusko Times, April 24, 1925.
96. The Kusko Times, April 11, 1925.
97. The Kusko Times, June 6, June 27, 1925.
98. Ibid.
99. The Kusko Times, July 4, 1925; U.S. Board of Road Commissioners for Alaska, Report.... Part II (Juneau, 1926), p. 72.
100. The Kusko Times, September 5, 1925.
101. The Kusko Times, September 3, 1937.
102. Diane Cudgel-Holmes, op. cit., pp. 42, 44.
103. Ibid., pp. 44-45.
104. Joseph S. Herron, op. cit., pp. 35, 46.
105. The Kusko Times, July 14, 1923, September 20, 1930, June 6, 1931.
106. Diane Cudgel-Holmes, op. cit., pp. 39, 41.

VII. Roads and Trails

1. Tom Odale, op. cit., pp.4344,46
2. Walter L. Goodwin, op. cit.
3. W.E. Priestley, op. cit.; D.H. Sleem, op. cit.
4. W.E. Priestley, op. cit.
5. D. H. Sleem, op. cit.
6. Iditarod Pioneer, July 31, 1910
7. Anton Eide, op. cit.
8. The Iditarod Nugget, October 26, 1910.
9. Iditarod Pioneer, February 25, 1911.
10. Iditarod Pioneer, December 28, 1910, January 22, 1911.
11. The Iditarod Nugget, December 28, 1910, February 22, 1911, March 1, 1911, March 22, 1911.
12. The Iditarod Nugget, March 22, 1911; Iditarod Pioneer, February 25, 1911.
13. The Iditarod Nugget, March 1, 1911.
14. The Iditarod Nugget, May 17, 1911, June 28, 1911, July 12, 1911; Iditarod Pioneer, July 8, 1911; U.S., Board of Road Commissioners for Alaska, Report...(Washington, 1912), p.15.
15. Seward Weekly Gateway, October 21, 1911.
16. Iditarod Pioneer, November 25, 1911, December 2, 1911, January 13, 1912.
17. Iditarod Pioneer, December 7, 1912, January 4, 1913, February 1, 1913; Seward Weekly Gateway, January 27, 1912.
18. J.L. McPherson, op. cit., p. 192.
19. Seward Weekly Gateway, January 10, 1914, Cordova Daily Alaskan, January 21, 1914; Iditarod Pioneer, March 21, 1914.
20. Iditarod Pioneer, October 31, 1914, November 28, 1914, December 19, 1914.
21. Iditarod Pioneer, August 7, 1915, October 30, 1915, November 13, 1915.

22. Harry E. Revell to Anton Eide, July 9, 1915, Anton Eide to Captain Glen E. Edgerton, September 26, 1915, File 13/58-1, Box 65479, Records of the Federal Highway Administration, RG30.
23. O.G. Herning to Antone (sic) Eide, January 6, 1919, A. Eide to Major W.H. Waugh, January 21, 1919, Anton Eide to Major W.H. Waugh, April 26, 1919, File 38/58-1, Box 65479, RG30.
24. R. Knox to Thomas Riggs, Jr., November 1, 1919, General Correspondence of the Alaskan Territorial Governors, roll 60, frames 736-747.
25. Governor Thomas Riggs, Jr. to Maurice D. Leehy, October 6, 1919, Iditarod Commercial Club to Thomas Riggs, October 21, 1919, Riggs to Iditarod Commercial Club, October 22, 1919, General Correspondence of the Alaskan Territorial Governors, roll 60, frames 750-753. See also Thomas Riggs to W.F. Green, May 30, 1920, roll 71, frame 956.
26. The Kusko Times, January 19, 1921.
27. The Kusko Times, February 9, 1921.
28. Gotwals to ARC, February 23, 1921, File 13/58-2, Box 65479, Records of the Federal Highway Administration, RG30.
29. The Kusko Times, June 29, 1921, October 5, 1921; D.E. Stubbs to Governor of Alaska, June 15, 1921, Steese to Gov. Bone, September 15, 1921, Bone to Sutherland, September 29, 1921, General Correspondence of the Alaskan Territorial Governors, roll 82, frames 558, 570, 587.
30. The Kusko Times, October 18, 1922; Captain C.S. Ward to D.E. Stubbs, July 27, 1921, File 13/58-2, Lukens to ARC, July 17, 1922, File 13/58-9, Box 65479, Records of the Federal Highway Administration, RG30.
31. U.S., Board of Road Commissioners for Alaska, Report.... Part 2 (Juneau, 1922), p. 17.
32. The Kusko Times, December 30, 1922.
33. The Kusko Times, September 9, 1922.
34. John Gotwals to Governor Scott C. Bone, September 25, 1922, Gov. Scott C. Bone to W.C. Van Dervoort, September 25, 1922, General Correspondence of the Alaskan Territorial Governors, roll 93, frames 381-383.
35. The Kusko Times, September 1, 1923.
36. Alice T. Lynch, op. cit.
37. Josiah Edward Spurr, op. cit., p. 96.

38. The Iditarod Nugget, March 15, 1911; Iditarod Pioneer, March 13, 1915.
39. The Kusko Times, January 19, 1921.
40. The Kusko Times, February 9, 1921.
41. The Kusko Times, February 1, 1922, April 19, 1922.
42. The Kusko Times, March 8, 1922, March 15, 1922.
43. The Kusko Times, December 6, 1922.
44. The Kusko Times, December 27, 1922.
45. The Kusko Times, December 13, 1922.
46. The Kusko Times, January 27, 1923, February 14, 1923.
47. The Kusko Times, November 10, 1923, December 8, 1923, January 5, 1924.
48. The Kusko Times, January 27, 1923, September 1, 1923, November 14, 1923, February 16, 1924, April 17, 1926.
49. U.S., Board of Road Commissioners for Alaska, Report...1931. Part II (Juneau 1932), p. 19.
50. The Kusko Times, January 14, 1933.
51. Alfred G. Maddren, The Innoko Gold-Placer District, pp.34-35
52. Anton Eide, op.cit.
53. Iditarod Pioneer, August 4, 1917.
54. W.F. Green to J.F.A. Strong, February 21, 1917, General Correspondence of the Alaskan Territorial Governors, roll 44, frames 383-390.
55. Iditarod Pioneer, August 4, 1917.
56. U.S., War Department, Office of the Chief of Engineers, Annual Report...Extract, 1920 (Washington, 1921), p. 2098.
57. The Kusko Times, February 19, 1921; President, Alaska Road Commission to Territorial Treasurer, August 1, 1921, General Correspondence of the Alaskan Territorial Governors, roll 82, frame 439.
58. The Kusko Times, October 21, 1922, August 25, 1923, April 25, 1925, December 5, 1925, May 29, 1926.

59. T.M. Reed to Hazel Barker, November 7, 1923, Thomas M. Reed Papers, University of Alaska Archives, Fairbanks.
60. A.H. Brooks, et al., Mineral Resources of Alaska, U.S. Geological Survey Bulletin 755 (Washington, 1924), p. 43.
61. Ross Kinney to Oliver, August 10, 1925, File SP-1 Takotna 13/159-5, Box 65432, Records of the Federal Highway Administration, RG 30.
62. The Kusko Times, October 2, 1926.
63. The Kusko Times, February 9, 1921, U.S., Board of Road Commissioners for Alaska. Report...1924, Part II (Juneau, 1924), p. 132, and Report...1929, Part II (Juneau, 1929), p. 119.
64. The Kusko Times, July 19, 1930.
65. John B. Mertie, Jr., Mineral Deposits of the Ruby-Kuskokwim Region, pp. 127-129.
66. Fred J. Spach to Alaska Road Commission, August 24, 1933, Ike P. Taylor to Stanley J. Nichols, et al., September 25, 1933, File 13/168-3, Box 65638, Records of the Federal Highway Administration, RG 30; The Kusko Times, October 7, 1933.
67. Edward W. Griffin to Frank Speljack, et al., July 13, 1936, File 13/168-4, Box 65638, Records of the Federal Highway Administration, RG 30.
68. The Kusko Times, March 19, 1937.
69. Ike P. Taylor to Fred J. Spach, April 20, 1937, Hawley Sterling to Ike P. Taylor, July 15, 1937, Ike P. Taylor to Fred J. Spach, July 19, 1937, File 13/168-4, Box 65638, Records of the Federal Highway Administration, RG 30.
70. Ike P. Taylor to Fred J. Spach, July 15, 1938, File 13/168-4, Box 65638, Records of the Federal Highway Administration, RG 30.
71. Iditarod Pioneer, June 10, 1916; W.F. Green to J.F.A. Strong, February 21, 1917, see note 54 above.
72. "Annual Report of the Fourth Divisional Road Commission for the Year Ending December 31, 1918," General Correspondence of the Alaskan Territorial Governors, roll 69, frame 293.
73. McKinnon to Riggs, September 22, 1920, General Correspondence of the Alaskan Territorial Governors, roll 79. McKinnon noted that the bridge must be reconstructed as three dredges for the Innoko district were to be transported over the route in the winter of 1920-21.

74. The Kusko Times, July 7, 1923, November 14, 1925, February 5, 1927.
75. U.S. Board of Road Commissioners for Alaska, Report...1923. Part II (Juneau, 1923), p. 85; U.S. Board of Road Commissioners for Alaska, Report...1924, Part II (Juneau, 1924), p. 130.
76. R.D. Menzie to ARC, January 20, 1925, File 13/151, Box 65637, Records of the Federal Highway Commission, RG 30.
77. Grenold Collins to H.W. Terhune, September 14, 1932, File 13/168-2, Box 65638, Records of the Federal Highway Administration, RG 30.
78. Fred J. Spach to Ike P. Taylor, July 5, 1937, File 13/168-2, Box 65638, Records of the Federal Highway Administration, RG 30.
79. Hawley J. Sterling memorandum, November 12, 1938, File 13/159-180, Box 65431, Records of the Federal Highway Administration, RG 30.
80. G.C. Martin, Gold Lodes in the Upper Kuskokwim Region. U.S. Geological Survey Bulletin 722-E (Washington, 1922), p. 152.
81. John S. Brown, op. cit., p. 98; The Kusko Times, February 19, 1921, June 18, 1921.
82. The Kusko Times, August 12, 1933, October 7, 1933.
83. M.C. Edmunds to Ike P. Taylor, January 8, 1947, File 20/A, Box 65429, Records of the Federal Highway Administration, RG 30.
84. E.J. White to William J. Niemi, December 27, 1951, File 20/A, Box 65429, Records of the Federal Highway Administration, RG 30.
85. Anton Eide, op. cit.
86. Iditarod Pioneer, August 5, 1911, August 9, 1911.
87. The Iditarod Nugget, October 26, 1910; Iditarod Pioneer, October 30, 1915.
88. John B. Mertie, Jr., Fieldbook No. 425, U.S. Geological Survey, Menlo Park, CA.
89. Cecil Barlow to Col. James G. Steese, June 30, 1922, Cecil Barlow to ARC, January 1, 1924, File 13/58-10, Box 65479, Records of the Federal Highway Administration, RG 30.

VIII. Aviation

1. Iditarod Pioneer, March 25, 1916.

2. The Kusko Times, December 29, 1923, February 23, 1924, March 1, 1924.
3. Alaska Game Commission, "Tenth Annual Report...", p. 93.
4. Ibid., p. 19.
5. Ibid.
6. Oliver to Kinney, May 18, 1925, Steese to Kinney, July 13, 1925, Ross Kinney to Oliver, August 10, 1925, Kinney to Sommers, November 2, 1925, Lottsfeldt to R.J. Sommers, May 12, 1926, File SP-1, Takotna 13/159-5, Box 65432, Records of the Federal Highway Administration, RG 30; The Kusko Times, March 27, 1926.
7. Frank Nash, "Information on Aircraft Landing Facility," February 17, 1930, File SP-1 Telida, Box 65432, Records of the Federal Highway Administration, RG 30.
8. The Kusko Times, November 1, 1930; A.W. Johnson to Hawley Sterling, February 25, 1932, File SP-1 Takotna 13/159-5, Box 65432, Records of the Federal Highway Administration, RG 30.
9. The Kusko Times, May 7, 1932; Spach to Alaska Road Commission, August 3, 1936, Taylor to Spach, August 4, 1936, M.C. Edmunds, "Information on Aircraft Landing Facility," File SP-1 Takotna 13/159-5, Box 65432, Records of the Federal Highway Administration, RG 30.
10. Hawley Sterling, "Possible Locations for Airfield Near River End of New Kuskokwim-Takotna Road," November 12, 1938, File SP-1 Candle Landing 13/159-180, Box 65431, Records of the Federal Highway Administration, RG 30.
11. M.C. Edmunds to Ike P. Taylor, October 28, 1938, M.C. Edmunds to Ike P. Taylor, November 28, 1939, "Information on Aircraft Landing Field, November 30, 1939, File SP-1 Tatina River 13/159-176, Box 65432, Records of the Federal Highway Administration, RG 30.
12. James D. Bush, Jr., op. cit., p. 113; Patrice Brazil, op. cit.
13. Edward H. Hosley, op. cit., pp. 258, 267-268.